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The British 'Challenger' now a world contender

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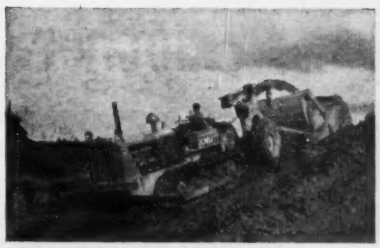
This British Diesel Crawler Tractor is building a great reputation for versatile efficiency right round the world. In countries new to the mechanical age the Challenger's comparative ease of operation and maintenance are proving their worth.



Hauling a 13-yard scraper this Challenger 4 is filling in the worked out Esswood open cast coal site at Essington in Staffordshire.

Five thousand feet up in Southern Rhodesia this Challenger 3 is bulldozing to prepare the ground for a new workshop extension.

Equipped with a 9-yard scraper, this Challenger 3 is moving pure white sand to form a canal near Veta Palama, 300 miles north of Madras.

A Challenger 3 fitted with hydraulically operated Bulldozer/Angledozer is used by this gasworks in England to stack coal.

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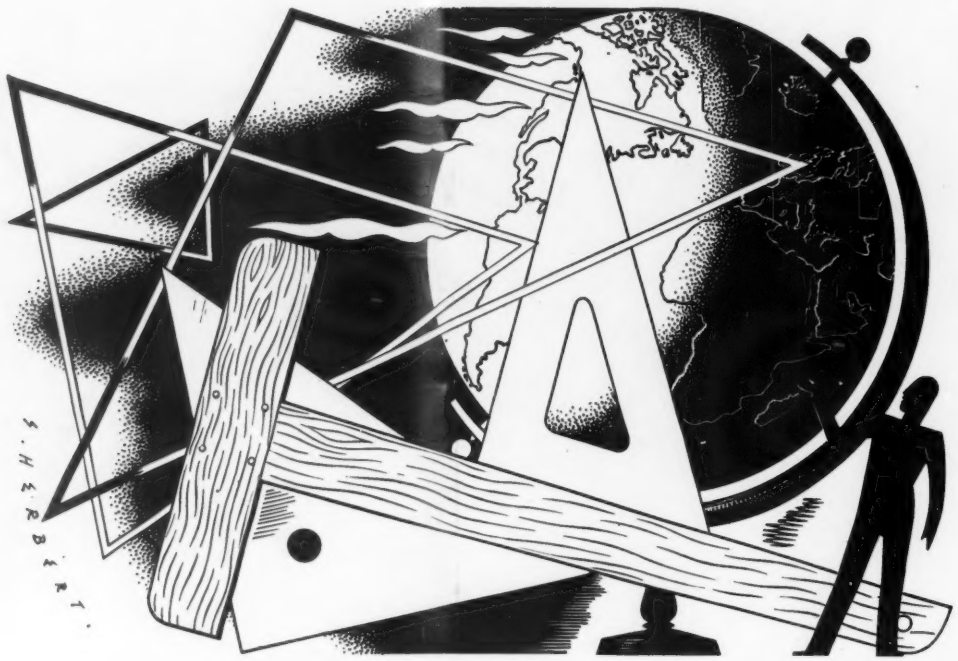

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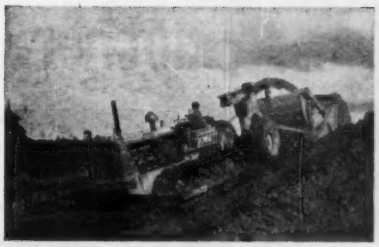

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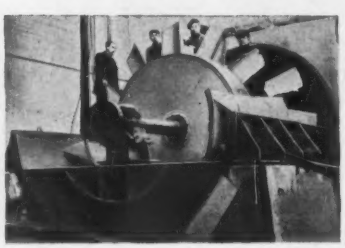

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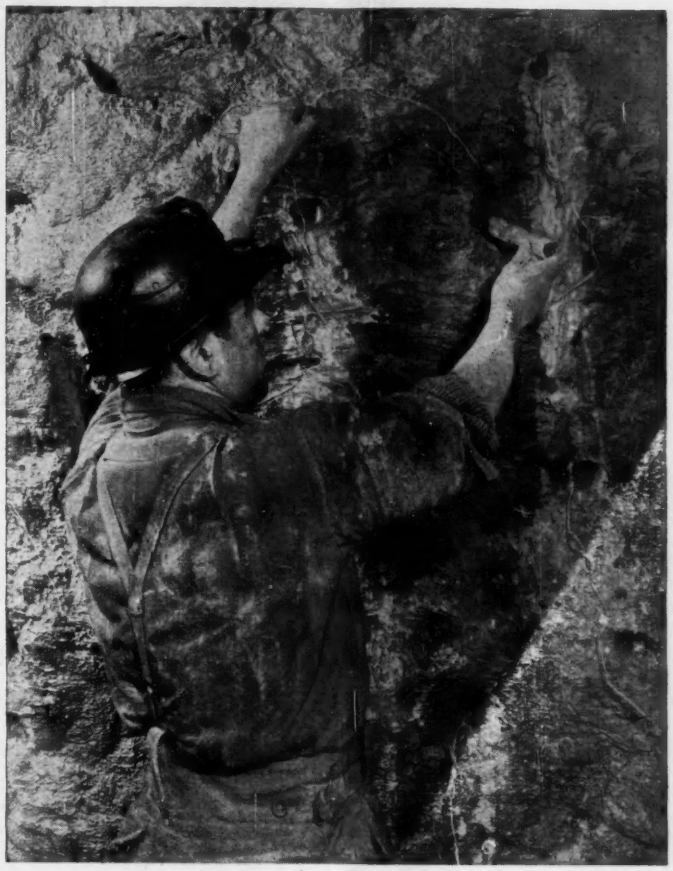

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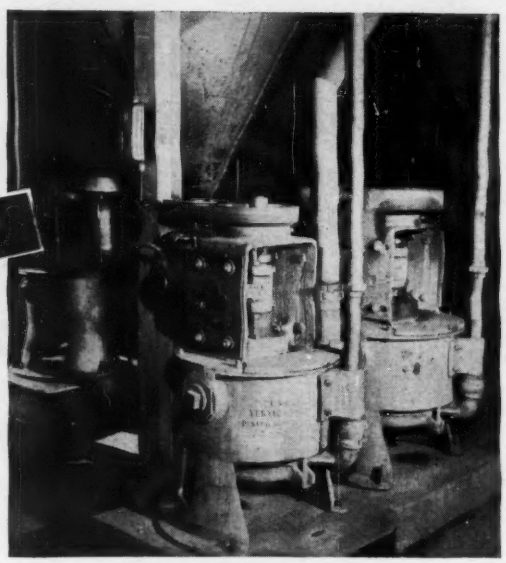

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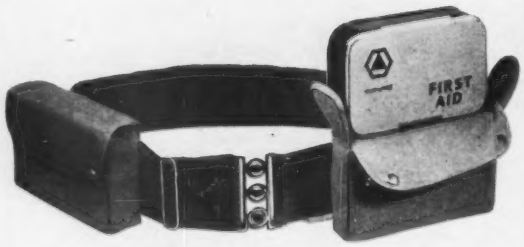

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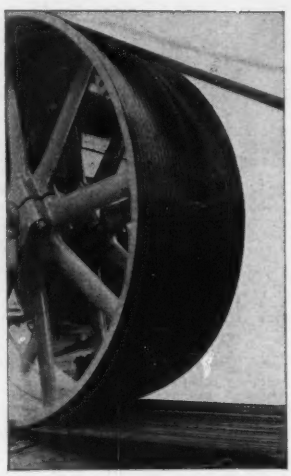

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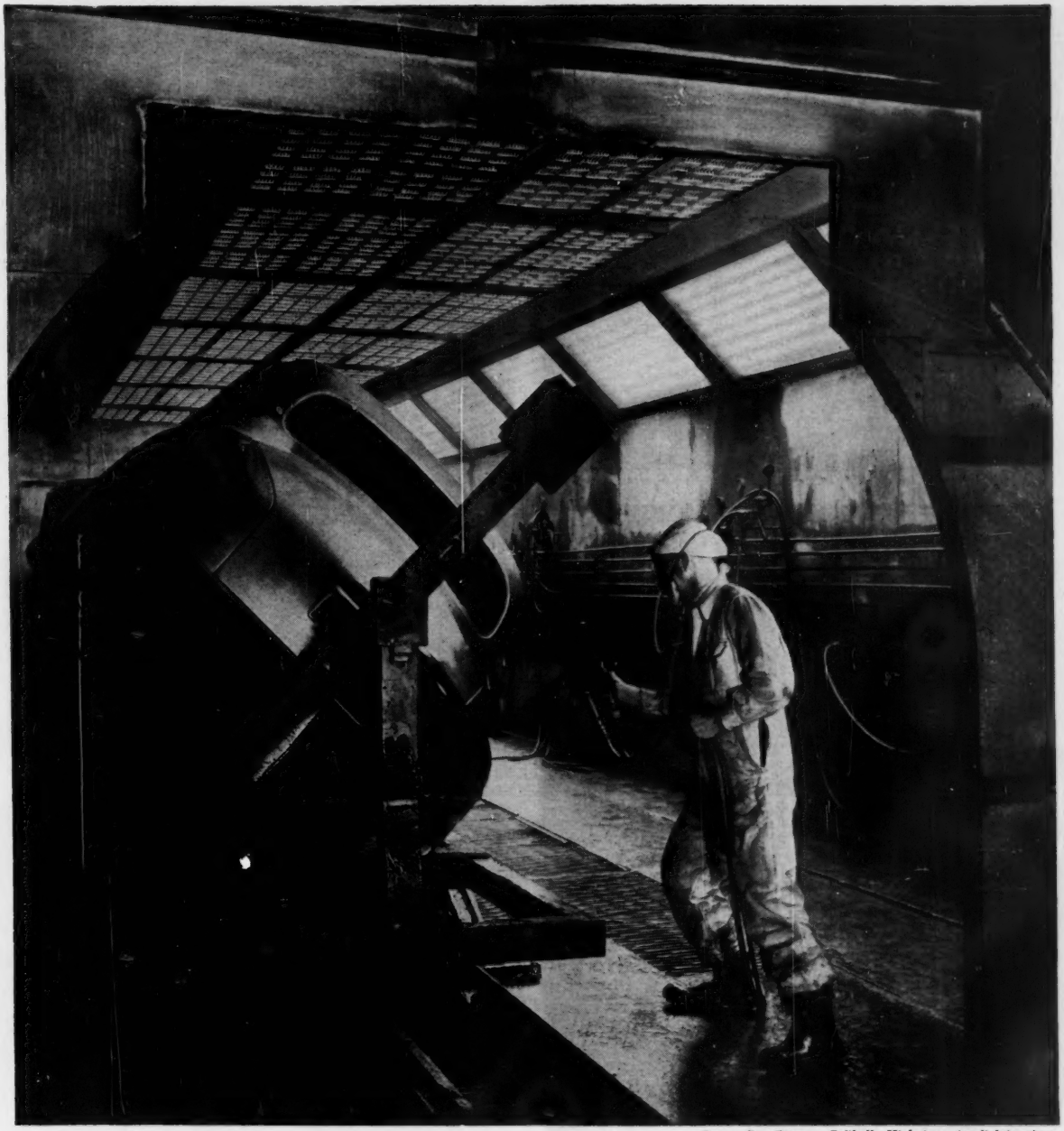

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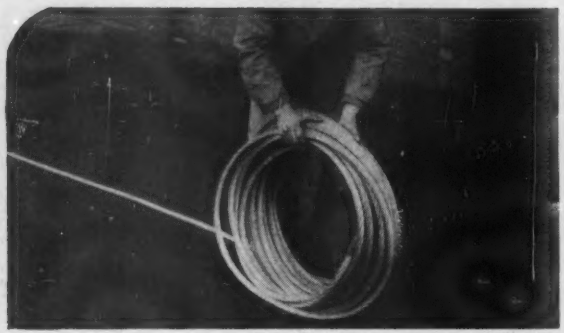
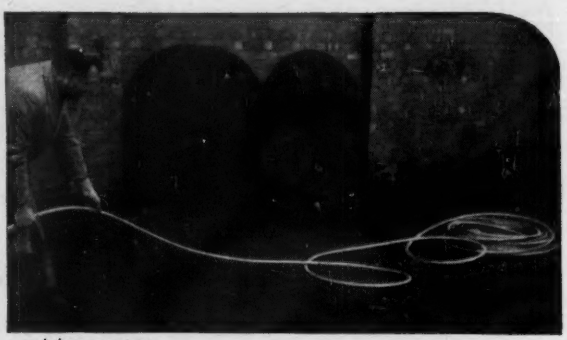
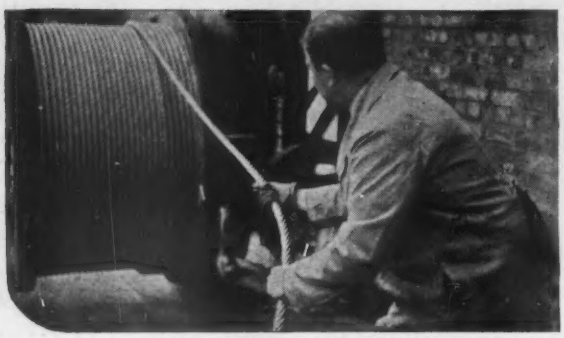


Uncoiling. The right way, treated like a hose



—and the wrong way



Unreeling. The right way, reel rotating freely

—and the wrong way

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The Mining Journal

Established 1835

Vol. CCXLII No. 6176 **LONDON, JANUARY 1, 1954** **PRICE 8d.**

CONTENTS

Notes and Comments	9	**Company News and Views**	22
Some Reflections on the U.S. Dependence on Imported Minerals	12	**Company Meetings and Announcements** — Anglo-Transvaal Consolidated Investment Company Limited; Rand Selection Corporation Limited; Mount Isa Mines Limited; Malayan Tin Dredging Limited and Southern Malayan Tin Dredging Limited; Sungei Besi Mines Limited and Ayer Hitam Tin Dredging Limited; Burma Mines Limited; Anglo American Corporation of South Africa Limited	24
From Our Canadian Correspondent	13		
Belt Capacity in Conveyor Transport	14		
Productivity in Coal Mines	17		
Outlook for Nickel	18		
Metals, Minerals and Alloys	19		
The Mining Markets	21		

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NOTES AND COMMENTS

What Do Washington, Moscow and 1954 Hold for Mining?

The Christmas holiday no doubt provides for many of our readers, as it does for us, the first pause from the daily round in which we can turn and appraise, at what suddenly appears to be very close quarters, the prospects which the New Year holds. However difficult it may be to forsee the future clearly and in perspective, at least we have only to glance at *The Mining Journal* of recent months to be made very conscious of some of the outstanding issues directly affecting the mining community around the world upon which, for better or for worse, we must look for further clarification in the coming year.

Although mining—like most industries—is increasingly the preserve of the technologist and the skilled key worker, the short term outlook for the industry continues to depend less upon technical know-how than upon the pattern of political and economic development. In the long term, of course, the reverse must be true. Indeed, the long-term future of the industry appears to rest almost entirely upon technical achievement, alike in seeking new deposits, in the economic working of progressively lower grade deposits, and in the development of new uses for some metals and the conservation of others. Be all that as it may, the immediate problems of this most international industry lie squarely with the politicians and economists and, more particularly, with the Kremlin and Washington.

There is little that can be said of the likely impact of Russian policy which as always remains a matter of guesswork, even if to guess correctly is of pre-eminent importance. It is probable that the struggle for succession touched off by Stalin's death may not yet be fully resolved and in any case the Soviet foreign policy since March is more likely to have reflected the tactics of this struggle for survival (which, it seems, has always been inseparable from the process of despotic succession) than any long term alteration in the strategy of foreign policy. It seems likely therefore, that we shall have to wait at least another year before the true significance for the free world of Stalin's death can be assessed.

In the United States, where every national issue is surrounded in what may at times be fairly described as a fog of publicity, two queries transcend all others for the European observer. First, has the Administration the know-how and the authority to avert the cumulative consequence of impending recession? Secondly, are we in danger of witnessing another American retreat from internationalism in the belief that the frontiers of peace for the Union lie no longer across the oceans, but rather behind the stockpiles and under the radar screen?

As regards the first of these vital queries, there seems little doubt that a wide section of opinion on both sides of the Atlantic believes that the experience now exists whereby the wider fluctuations of the American economy can be controlled by anticipatory Government action. Extreme cyclical fluctuations are however in large part the product of cumulative mass impulse, and it has yet to be proved that, when dosed with the prescribed remedies, the patient can be sufficiently calmed for the dose to be administered and given time to take effect. However, as regards 1954, economic crisis is not expected to be the order of the day and the transatlantic economic oracles, who have to exercise their clairvoyance in the most mercurial of all business climates, appear united in foreseeing a relatively slight but orderly decline towards the pre-Korean levels of activity. For them the talk of recession in 1954 amounts to no more than a pause in the normal upward growth of the American economy based on the dynamic of a rapidly expanding population and a capital investment in industrial research (both theoretical and applied) which by any standard is colossal.

As regards America's relations with her allies, there can be no real doubt that, so far as the Administration is concerned, the policy still stands of supporting the enemies of Communism — wherever they may be. Such support abroad, however, spells taxation at home coupled, in the absence of increased tariffs, with a measure of unwelcome competition with domestic industries and when the recession comes it will be pressure from the irked taxpayer and the undercut industrialist rather than from the isolationist *per se*, which may embarrass the Administration. Therefore, should even mild slump conditions develop in 1954 we may well have a clearer picture by the year end of the real extent of the Administration's authority alike on Capitol Hill and on Main Street.

Wherever one looks, American foreign policy seems destined to influence the course of events in a greater or lesser degree. Thus in Europe, we may expect to know finally during the course of the New Year whether the European Defence Community will be established, and if not, what alternative solution is to be found to the problem of harnessing Germany's military potential to the defence of the West. Side by side with this, the financial problems of N.A.T.O. must come increasingly to the fore with the prospect of tapering American aid. Here in its simplest form the problem for many European countries is how even to provide from their own budgets the finance to man and maintain existing American aid weapons and equipment, let alone how to finance replacements without American aid.

On the commercial front the New Year in Europe should provide more conclusive indication of the practical success which is likely to attend the establishment of the European coal and steel community. Certainly the events of recent months would seem to have lent point to Britain's delay in becoming a constituent member of this organization, although it may well be that the common desire for the consummation of the impending American loan may impose the necessary discipline on the existing members.

The dilemma of Trieste remains a liability to be carried forward to the New Year and if no longer for the present front page news, it nevertheless remains a problem fraught with potential dangers for Yugoslavia's friendly relations with the West, the strategic importance of which is self-evident.

Turning to the Commonwealth, we find the year opening with what happily are now showing signs of becoming almost routine top-level, inter-governmental talks. The forthcoming Sydney conference will, in the words of Mr. Butler, " be concerned in maintaining and increasing the prosperity of the Commonwealth and sterling area." It was clear after the visit to Washington earlier this year by Mr. Eden and Mr. Butler that whatever efforts might be made to turn sterling into a hard currency, Washington would be unlikely to consider any active support for sterling convertibility for another year or two, and in consequence it may well be that we shall see a shift of emphasis as a result of the Sydney meeting towards increasing trade within the sterling area as a means of cushioning the effects of any American recession on dollar exports. However undesirable the concept may be in its broadest inplications, there is no doubt that much more can still be achieved in the way of Commonwealth self-sufficiency. Here the immediate problem is not so much the provision of capital (the availability of which is already in prospect through such agencies as the International Bank and the Commonwealth Development Finance Co.). Rather it is a problem of liberalizing and balancing a much higher level of trade within the Empire—and in 1954 at that.

Meanwhile on the home front the readjustment of industrial relations to the new and less inflationary economic climate already threatens to be a difficult one and the wages negotiations which are pending for the New Year are of critical importance. For some time it has been clear that a fundamental weakness in British Trade Union organization exists in the inability accurately to transmit to the local Union branches the recent views and advice of the national executives. In lesser degree, this is a criticism which may well be applied to post-war governments vis-a-vis the people as a whole, and in the context of the present wage disputes it is doubtful in the extreme if the average Trade Unionist yet appreciates the part which his wage-packet plays in the nation's struggle for economic survival.

In Africa, 1954 will witness the running-in of the new machinery of Rhodesian Federal Government. The successful consolidation of this new Federal territory could be advanced most surely by the successful reconciliation (pre-eminently in the Copperbelt) of natural native aspirations for enhanced industrial status with the European workers equally natural fears of dilution. As Mr. Prain pointed out in London not so long ago, this is not a problem which can be set on one side. A workable compromise must be achieved if Rhodesia is to have an economic future and the longer the issue is left unsettled, the more will it become obscured by emotional bias (as indeed it already has), and the more difficult will the eventual solution become.

In South Africa, 1954 will see the bringing into production of a further sizeable batch of gold mines and what is at the moment of greater significance, the coming into production of more of the uranium plants financed through British and American capital loans and long-term purchase contracts. It is now clear that the South African gold industry will eventually prove to be one of the world's principal producers of uranium, and this development has in large measure transformed the middle-term outlook for the industry, which otherwise with still rising costs, a fixed gold price and a non-existent premium would have to be rated as bleak.

However, even if the outlook for the industry is intrinsically much brighter than might have been hoped a year ago, it is difficult to see any improvement, or indeed any prospective improvement, in the politico-social dead-end which the Union appears to have reached. Inevitably, perhaps, it is only in the industrialized areas of the world (and not always in these) that government, management and labour alike realize that continued employment and improved living standards for each and every section of the community depends on maximizing the purchasing power of every group. In South Africa de-tribalization is, for better or for worse, an established fact for a large portion of the native population. It remains for the white electorate to face up realistically to the economic implications of this.

Again, in the Far East, the miner must inevitably give top priority in his plans for 1954 to an assessment of the political outlook. It may well be that at the moment the immediate storm centre is shifting from Korea to Indo-China where the outcome of the present rebel offensive into Laos may develop into a decisive campaign. If the French forces were to be defeated, the implications of this for the Malayan Peninsula and Indonesia could scarcely be more serious.

On the economic front, Malaya has within the space of the past two years had to contend both with inflationary boom conditions and now with sudden slump as the market price of the two staple commodities on which its economies are largely based—tin and rubber—has plunged. The implications of this must have a profound effect on Far Eastern political strategy in the coming year and provide a typical example of the political calculations, which to-day are basic to any consideration of the outlook for commodities and to attempts at their stabilization. Thus to-day the problems of tin, copper or oil, to name but three, are not merely economic problems, they are also major political and military problems.

In deciding the future course of these markets, the attitude in the United States must remain decisive. At the moment, however, Washington has no discernible official attitude and will presumably continue to have none until the Randall Commission makes its report. Even then it remains to be seen whether the issues have been effectively fought out before the Commission or whether the present hearings are merely a preliminary skirmish before Congress gets to work on the consequent legislation. Knowing the persistence of the professional Washington lobbyist, we fear that the report of the Randall Commission will be but the end of the beginning.

Meanwhile, if not the actual ratification, at least the successful outcome of any new tin agreement must await a positive attitude from Washington, while the orderly dispersal of surplus Chilean copper stocks awaits the resumption of negotiations in Washington.

With practically every metal it comes back to the same question—what is America going to do? Is she now or in the foreseeable future a have-not country for this or that metal, and if so will she allow the logic of the situation to be reflected in her fiscal policies? If so, the outlook for mining throughout the free world in any but the immediate short-term must be regarded as bullish, and, indeed, when it is recalled that the Paley Report has estimated that over two-thirds of the hundred minerals employed in American industry are now imported either wholly or in part, any American fiscal policy based on a concept of self-sufficiency appears tantamount to a self-imposed blockade.

One further market factor which has, in the case of several metals been making itself felt in recent months, and must clearly be reckoned with in the year ahead, is the entry of Russia as a substantial seller. This has occurred in the case of gold, silver, platinum, manganese, and asbestos. In the main it seems reasonable to think that there has been no sinister purpose behind these sales which have been made as the normal commercial means of financing increased imports. At the same time, the effect of these operations, notably on the gold premium market and on the asbestos market is indicative of the important economic weapon which Russian stockpiles could become in a wrecking raid on this or that commodity market, or currency exchange.

All in all, we appear to be entering 1954 with commodity prices on a far more realistic basis than they were a year ago and with the abnormal inflationary stresses and strains of the post-Korean period partially removed. The tone of industry on both sides of the Atlantic seems one of subdued confidence which will probably prove justified if governmental financial and fiscal mechanisms can be made to operate sufficiently promptly to arrest a suddenly accelerated recession before the paralysis of market panic has time to assert itself.

Chartered Bank of India's Centenary

On Tuesday of this week—December 29, 1953—the Chartered Bank of India, Australia and China completed the first 100 years of its career, which has been devoted to financing trade between the East and Atlantic countries.

Although the original prospectus of Britain's oldest Eastern bank appeared on October 9, 1852, it was not until December 29, 1853, that it received its Royal Charter, valid in the first instance for a period of 21 years. The prospectus proclaimed that the Chartered Bank was being founded primarily to extend the "legitimate facilities of banking to the vast and rapidly extending trade between the Australian colonies, British India, China and other parts of the Eastern archipelago." At that time the company's entry into Eastern banking affairs was not entirely welcome owing to the dominant position held there by the East India Company which had established various local banks for the purpose of maintaining effective control of trade and commerce in that area.

However, the East India Company was not the only obstacle the company had to clear in its early career. The Crimean War and the continuing disturbances in China caused uneasiness amongst several of the most influential of the Bank's shareholders who, in consequence, were not entirely convinced that the wisest course was to proceed with implementing the terms of reference outlined in the Royal Charter. Nevertheless, these difficulties were overcome and the Chartered Bank actually commenced business on April 12, 1858, in the East, when it opened its first branch in Calcutta followed five days later by the opening of a branch in Bombay.

From that time onwards the bank forged ahead rapidly and it was not long before its branches were to be found throughout the East, although the intention to open up branches in Australia was given up *ab initio* and throughout its history the Chartered Bank has remained a purely Eastern institution.

Of particular importance to the mining industry was the Colonial Office decision to use the British Government's influence to restore peaceful conditions to Malaya and to provide a protection for trade with the native States. This action made possible the orderly development of Malaya's tin and rubber industries which in turn led the bank to open branches at Kuala Lumpur and at Taiping. In fact, it was the establishment of a network of up-country branches in Malaya which marked an historical change in the Chartered Bank's policy. Previously, branches had been established either on or close to the sea, whereas now it embarked on a policy of representation in all the Eastern countries wherever economic conditions warranted their establishment. Thus its activities continued to expand, slowly perhaps, but surely and securely so that it was able to successfully weather the decline in the world price of silver during the last three decades of the 19th century which overwhelmed several of the Chartered Bank's most powerful competitors and revolutionized the financing of the Eastern trade.

By 1914 the pattern of the Bank's branch system as it now exists was settled in its essentials, and although it has been necessary in recent years to extend its agencies to New York, Hamburg, Manchester and Liverpool, its branch system had struck its roots deep in the East. Ample confirmation of the solidity of the Bank's foundations was forthcoming when the Japanese attack on Pearl Harbour touched off the glowing embers of Eastern nationalism, the final effects of which have yet to be recorded.

Indeed, Mr. V. A. Grantham, chairman of the Bank, in his statement to stockholders on the Bank's progress during 1951 observed that never before in so short a time had there been such extensive transfers of sovereignity. Accordingly, a revolution on so gigantic a scale might have been expected to extinguish institutions more firmly established than the branch organization of a commercial bank controlled and directed from Western Europe. Yet notwithstanding the almost catalysmic changes which have occurred in the social, political, and economic structures of nearly all the alien lands engaged in international commerce, the Chartered Bank has preserved its system of branches almost intact.

Thus the Bank can look over its shoulder to the last 100 years with pride and satisfaction in the knowledge that it has done much to further trade and prosperity throughout the East.

Soviet Gold Shipments

Over the past two months an appreciable amount of Soviet gold has been sent to this country. In the absence of any official disclosures as to its total value the precise worth of these shipments is not known but it is estimated and, indeed, hoped that they may be as much as $80-100,000,000 which would be a valuable addition to this country's gold and dollar reserves.

The reasons prompting the Soviet authorities to suddenly draw upon their gold reserves are not clear. At first it was thought that the U.S.S.R. was offering gold to cover purchases from non-satellite countries which she was making to give substance to Malenkov's declaration of increased priority to Russian consumers. However, the present explanation is that Russia is in need of sterling as her basic exports of timber and grain have declined sharply this year.

Some Reflections on the U.S. Dependence on Imported Minerals

In view of the evidence now being taken by the Randall Commission considerable interest inevitably attaches to the Mid-Century Conference on Resources for the Future which was held in Washington at the beginning of December. This was a public and much publicized conference attended alike by Government, management and labour, under the chairmanship of Mr. Lewis Douglas. It will be recalled that it was Mr. Douglas who was invited earlier this year by the President to prepare a report on foreign economic policy, which the latter subsequently submitted to the Randall Commission with his strong approbation. The work of the Conference, which was split up into eight sections, covered a wide range of problems including land and water power utilization, and a review of the fuel minerals. Of special interest to *Mining Journal* readers, however, will be the sections devoted to the U.S.A.'s concern with world resources and the extent to which she should depend on them. Below we give a brief summary of some of the documents and discussions in these sections of the Conference based on reports published in the *American Metal Market* and the *Bulletin Service* of the American Mining Congress. A preliminary report of the whole Conference has already been made available to participants and we understand that a full report will be available in due course.

Prior to the opening of the Mid-Century Conference on Resources for the Future a manual was circulated to participants in the sections of the Conference devoted to world resources setting out three principal issues for discussion. These are listed below together with appropriate quotations from the manual followed by a brief summary of the discussion on each topic.

1. What should United States commercial policy be with respect to imports of raw materials?

> "The United States built its prosperity on an abundance of raw materials, largely within its own borders. In terms of our unprecedented production of goods and services, that raw material wealth is declining. Moreover, to maintain our prosperity and security we are now forced to accept the role of world political and economic leadership. Has the development of our commercial policy kept pace with these changes? How well are our policies designed to serve our future interests?"

It was obvious from the outset, the discussion report said, that security questions impinged directly on all the issues considered by the section. Discussion of the security question raised in the minds of some "a doubt whether materials security is not too frequently considered in terms of the situation confronted by this country in previous wars and the suggestion was made that stockpile goals and concepts of commercial policy designed to promote national security might be reviewed in the light of more current concepts of vulnerability."

"Discussion of commercial policy," the report continued, "started with a recognition of the facts that tariffs in the raw material area are generally low, that there is a large free list, and that existing quotas are relatively unimportant. . . .

"Given this situation, the realistic alternatives appeared to the section to be (1) the retention of this liberal policy, pressing here and there for further tariff reductions which must be recognized, however, as being of relatively little importance; (2) the retention of a liberal policy with, however, increased tariff protection in a limited number of cases; and (3) a fairly widespread increase in tariff rates. . . .

"Discussion of commercial policy with respect to particular materials centred around oil, lead, zinc and copper. Those who believed that exceptions to a liberal commercial policy should be made in the case of these materials emphasized security considerations, including the necessity of having a healthy mining industry in the event of war, and the hardships involved in shutting down domestic operations in favour of foreign sources of supply. Those opposed to exceptions for these materials noted that for most of them alternative low-cost sources of supply are available in relatively safe areas and offered the opinion that hardship cases might be handled better in some other way than by raising the price to all consumers in the United States through tariff increases."

2. What are the most effective means of developing low-cost resources abroad?

> "As in the case of our import policy, we must ask ourselves whether our methods of developing and obtaining raw materials to fill the present and future needs of American industry are the right ones. Are we paying sufficient attention to the development of a better coordinated, more consistent body of policy in the fields of public and private lending, international political relations, tax policy, and so on? How can these policies best be made to preserve our prosperity in the future?"

Discussion of foreign resource development problems centred around the respective roles to be assigned to private versus public financing. One view was that private investment "could do the whole job with the possible exception of Government financing of technical assistance for geological surveys and Government loans to private U.S. and foreign enterprises in cases where it was clearly established that our strategic interests require a more rapid rate of development than could be expected with private financing."

Another view was that Government has an important role to play also in financing installations such as port facilities, public utilities, roads, and irrigation projects.

3. Is it desirable to stabilize raw materials markets, and, if so, how should this be done?

> "Most other raw material producing countries and many industrial countries that depend heavily on raw material imports believe that international action to stabilize volatile raw material prices is necessary and practicable. With certain exceptions, government and private opinion in the United States has been opposed to this kind of action. Is there a 'right' position where these views can meet?"

There was little agreement on what should be done with respect to stabilizing materials prices. Among devices discussed were international commodity agreements, buffer stocks, and use of a military stockpile. There was a consensus that "the latter device had little merit since in the accumulation of a stockpile, security is the overriding consideration and consequently sales from the stockpile are not and should not be permitted except in emergencies." There was general agreement, however, that "purchases for the stockpile could be accomplished with much less market dislocation than has in fact characterized U.S. purchases since the war."

In regard to inter-governmental commodity arrangements, it was generally agreed that price and quantity regulation is a complex and difficult task. Some doubted that it could be done effectively, if at all; others thought an

attempt should be made to work out multi-lateral arrangements.

There was "no marked enthusiasm" for international buffer stocks. It was pointed out that "such a sales and purchases programme involved the determination of a long-run equilibrium price and that in the face of structural cost and demand changes this was a difficult job. It was also indicated that political pressures either to buy or to sell might be intense and that the costs of holding stocks large enough to exert a stabilizing effect would be large."

TARIFFS VERSUS SUBSIDIES

At a dinner session devoted to discussion on "How Much Should We Depend on Foreign Resources?" this issue was discussed by a panel, which included among its members Mr. Andrew Fletcher, president of the St. Joseph Lead Co., Mr. Charles P. Taft, president of the Committee for a National Trade Policy, and Mr. Robert Garner, vice-president of the International Bank for Reconstruction and Development.

Mr. Fletcher opened the discussion with an address pointing out the necessity for maintaining a strong domestic mining industry, and advocating adoption of a sliding-scale anti-dumping tax as "probably the best solution" to equalizing higher domestic mining costs.

"I do not share the belief that we are a 'have-not' nation and that we must save our few remaining assets by keeping them locked up in the ground," Mr. Fletcher declared. "There is no quicker way that I can think of to drop into the 'have-not' class than to let the mines flood, have no younger men coming into the industry, have no incentive or organization to find new ore reserves, no desire to develop and improve mining machinery, and to lose the technical know-how."

Speaking of lead and zinc he agreed that the U.S. must import approximately one-third of its requirements, but said, "The alternate withholding and flooding of our markets by the foreign suppliers is a major factor in the wide price fluctuations of the metal.... To the extent that more and more domestic mines are closed down, the American consumer must place greater dependence on foreign sources, which experience has shown and statistics prove are not reliable."

Mr. Taft began his comments with a flat statement that "we cannot supply our essential basic raw materials from within the United States." However, he said, "we should encourage exploration in the United States and on the North American continent for all the items of which we are short."

Mr. Taft suggested the U.S. "should subsidize by contract truly marginal higher cost mines, where the national interest and security really require it in order to have working mines at once in case of war," but added that an adequate stockpile may give "plenty of time for marginal mines to get in production."

He attacked the proposed sliding-scale import tax on lead and zinc as "a thoroughly bad remedy." What it does, according to Mr. Taft, "is to produce a stable high price in the United States at the expense of foreign producers, especially our friends in Mexico and Canada, where it would undermine and perhaps destroy by continuously fluctuating prices the very enterprises upon which we must rely in war.... It is one more piece of economic warfare on Canada, our best friend and ally."

Mr. Taft said such a tariff "has been estimated to add to our consumer costs $200,000,000, where the subsidy is only a fraction of that—say $10,000,000 to $40,000,000. The subsidy method has the highest direct relation to the objective at the lowest cost, and with least damage to our foreign relations. Surely that is a sound principle to govern government intervention in our economic system."

Canada

(From Our Own Correspondent)

North Bay, December 17.

Exploration and development designed to bring uranium-bearing deposits into profitable production is under way over a broad area in the Algoma and Sudbury districts of Northern Ontario. Particular attention is being paid to the Algoma area where the indicated ore is already measured in terms of more than 3,000,000 tons. This has been brought about largely through surface trenching and diamond drilling. The prospects are favourable for important expansion accordingly as underground developments take place. Algoma lies to the south-west of the Sudbury nickel field. The encouragement in Algoma attracted attention to similar rock formations which flank the Sudbury nickel-producing area. As a result, a number of new discoveries have been made to the north of Sudbury itself, particularly involving the townships of Roberts, Creelman, Hutton, and Parkin.

Canada's petroleum production for 1953 will exceed $210,000,000 according to preliminary estimates. This rise promises to lift the country's total mineral output for the year to approximately $1,300,000,000.

Because of a prolonged labour strike at the gold mines of Northern Ontario and North-Western Quebec, the output of precious metal has declined sharply. A late report from Toronto, however, says that on Monday of this week mine and Union officials signed a new contract for the gold mines at Hollinger Consolidated in Timmins, Ontario, where 1,600 men at the mine have been on strike for 14 weeks. The contact will be in force for 18 months and will include a 5 c. per hour pay increase. It is hoped to have all the men back at work within a few days.

NEW PROJECTS

Nickel output at a current rate of $160,000,000 annually now occupies second place in point of value of minerals produced in Canada. International Nickel and Falconbridge Nickel are both enlarging scope of operations in Ontario, while an entirely new nickel-producing mine of importance has come into being in Northern Manitoba, the Lynn Lake Mine of Sherritt-Gordon.

Opemiska Copper Mines has gone into production in the Chibougamau district of Northern Quebec. The new plant has commenced with a concentrator capacity of 400 tons daily. This operation was facilitated when the Quebec provincial government spent $4,000,000 on construction on an all-weather highway from the railway to Chibougamau. A new townsite was surveyed out in the heart of the Chibougamau field, and already a community of close to 600 has become established. Plans have been made to deliver hydro-electric power to the area within the next two years. The new town, the highway, and the power facilities thus established in the heart of a large and undeveloped territory are expected to lend impetus to exploration and development over a broad area. The Opemiska mine is controlled by Ventures Ltd., and Hoyle Mining Co.

Ontario Pyrites Co., controlled by Hoyles Mining Co., and Ventures Ltd., is negotiating for $6,000,000 to $10,000,000 with which to carry out plans for placing the mine on a producing basis of 1,500 tons per day. Ore so far in sight is estimated at 10,000,000 tons with development still in its early stages. One zone on the property has 2,250,000 tons of ore outlined where the gross metal content at present prices has a content of $25 to the ton, made up of copper, lead, zinc, silver and gold. The process to be used is expected to be selective flotation together with a roast-leach process developed by Falconbridge Nickel Mines.

BELT CONVEYORS—IV

Belt Capacity in Conveyor Transport

By A. GRIERSON, B.Sc., A.M.I.Min.E.

Efficient loading plays a most important role in determining the carrying capacity of a belt conveyor, as does the maintenance of transported material on the belt. In addition, loading and discharging facilities together with the shape and characteristics of the material being conveyed, must be considered before the maximum speeds and slopes of belt conveyors can be assessed. In the following article, the fourth of a series of seven, methods and equipments used in loading and load control are discussed in detail.

The carrying capacity of a belt conveyor is directly dependent upon the efficiency with which the material is fed and maintained on the belt. Therefore, in order to derive an expression giving the capacity of a conveyor belt it is necessary to assume ideal conditions, i.e. maintained peak loading. With such conditions the theoretical carrying capacity of a conveyor is dependent upon :

(1) Area of Cross Section of load on belt, influenced by :
   (a) Width of belt ;
   (b) angle of troughing of idlers ;
   (c) method of loading material on to belt ; and
   (d) angle of slope, density and size of material.
(2) Speed of belt.

By measuring the actual profile of the material on the belt it is possible to calculate the cross sectional area of the load. Having determined this, the carrying capacity of the belt can be expressed as :

$$P = \frac{60\ AVM}{2240} \text{ tons}$$

where P = tonnage of material carried per hour.
A = area of cross section of load in square feet.
V = speed of belt in ft./min.
M = weight in lb./cu.ft. of loose material.

In this form the capacity formula is not particularly useful as the value of A can only be found in practice. Consequently, general formulae based on experience and tests on existing installations have been deduced to enable the carrying capacity of any belt to be determined. Large belt conveyors usually have 3, 5 or 7 idler rolls per set and the inclination of these wing idlers has an important bearing on carrying capacity. A fully troughed belt is one where the angle of inclination of the outer belt idlers is of the order of 20° to the horizontal and the following data relates to such a degree of troughing.

The formulae used when conveying was in its infancy were not rational in that the cross sectional area of the load on the belt was assumed to be directly proportional to belt width and neglected the effect of clearance width at each side of the belt. This clearance width is necessary to prevent spillage and varies from 1 in. for a 20 in. wide belt to 4 in. for a 60 in. wide belt. It is not, however, directly proportional to belt width, and manufacturers usually advocate clearance widths at each side of the belt to be 0.05W + 1 in. where W is width of belt in inches.

A USEFUL FORMULA

A formula giving good results in practice for most minerals states that the capacity of a troughed belt in cubic feet per hour at 100 ft. per min. is kW^2 where k is a constant depending on belt width and W the width of the belt in inches. The value of k varies by steps from 3.2 for a 12 in. belt to 4.0 for 60 in. belts according to

$$k = \frac{W + 180}{60}$$

The value of k and corresponding belt widths is as indicated :

Belt width in inches	12	18	24	30	36	42	48	60
k	3.2	3.3	3.4	3.5	3.6	3.7	3.8	4.0

Having got the capacity of a conveyor belt in terms of cubic feet per hour it is merely necessary to multiply this value by the weight per cubic foot (loose) of material being carried and so express belt capacity in terms of weight.

$$\text{Consequently, capacity in tons/hour} = \frac{kW^2M}{2240} \text{ at 100 ft. per min.}$$

Typical values of M are :

Aluminium oxide ..	60	Iron Ore	150
Ashes (dry)	35-40	Quartz (ground) ..	110
Ashes (wet)	45-55	Sulphur (coarse) ..	60-70
Cement	85-100	Zinc oxide	20-35
Coal	50	Zinc sulphate ..	60
Feldspar (crushed) ..	100		

This formula is based on an angle of repose of approximately 20°, this being common with many materials under average conditions. For fine, dry, free-flowing materials such as sand, which pile at a flat angle on the belt the capacity values are reduced by about 20 per cent. By careful loading and smooth and steady operation when dealing with material like run of mine coal where lumps are mixed with fines and so pile easily, the capacity values will be raised by about 20 per cent above the figures determined from the formula.

This capacity formula only applies to fully troughed conveyors and for semi-troughed and flat belts the values obtained must be reduced by about 20 per cent and 50 per cent respectively.

MAXIMUM BELT SPEEDS AND SLOPES

A great advantage of belt conveyors is that they can be run at high speed with little increase in friction or noise. Theoretically, all belt conveyors could, like grain conveyors, be run up to the speed at which the material is blown off the belt by air resistance. In practice, however, the loading and discharging facilities must be considered, and also the shape and characteristics of the material being conveyed. The table below shows the maximum recommended belt speeds for conveying various types of material. Where the conveyor is to operate underground or in a confined space, speeds may be somewhat lower to minimize dust.

Maximum belt speeds ft./min.

Belt Width ins.	*Lt. material, grain, dry sand*	*Crushed stone and coal, gravel*	**Mod. heavy and abrasive material.*	*†Heavy and abrasive material.*
20 - 24	600	400	350	250
30 - 36	750	500	400	300
42 - 60	850	550	450	350

* Run of mine coal, crushed ore, etc. † Hard ore, coke, etc.

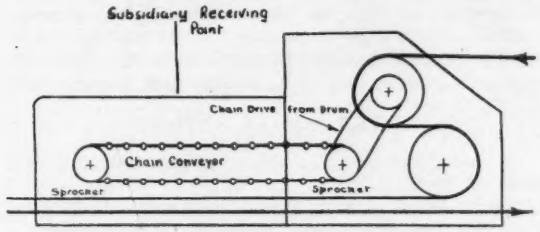
In general, wide belts can be run faster because the material can be loaded better to reduce movement on the belt.

The maximum slope on which a conveyor can operate depends essentially on the material that is carried, being limited by the tendency of the material to roll downhill. Sized material cannot be conveyed on angles as steep as where the lumps in a mixture rest on a bed of fines. An intermittent feed causes trouble where the angle approaches the maximum as single lumps falling on the conveyor tend to roll around on the empty belt. It is considerations such as these which have fixed the angles practicable for conveying various materials.

Maximum inclines for belt conveying.

Material	*Max. angle degrees*	*Material*	*Max. angle degrees*
Sized coal; anthracite	16 - 17	Iron ore (run of mine)	18
Run of mine coal	18	Grain	15 - 17
Briquettes	10	Salt (coarse)	18 - 22
Earth	20	Lime (p'wd'd)	22
Gravel (screened)	15	Coke	17
Sand (dry)	15	Feldspar (fine)	18

The potential carrying capacity of a conveyor on an incline is somewhat less than that when operations take place on the level, owing to the tendency of the material to slip back



— TRIPPER REGULATOR —

when on the belt and the difficulty of attaining absolutely efficient loading on the gradient. This reduces the load cross sectional area, but for inclinations up to 10° the difference in capacity is not pronounced.

As has been previously stated when considering choice of belt, the width of belt required for a particular installation is dependent to some extent upon the maximum size of the pieces of material to be conveyed. Despite the fact that a belt may have more than the required capacity to deal with a specific output, if the material conveyed contains large lumps, spillage may result if belt width be too narrow. Many manufacturers rely solely on the practical experience of their engineers before deciding on the width of belt to be installed, but the following table is one used by many conveyor belt manufacturing firms and is worthy of inclusion.

Unsized lumps in.	*Sized lumps in.*	*Min. belt width in.*
6	4½	20
9	5½	24
10	6	26
14	7	30
18	9	36
20	11	42
24	14	48

Note that all belt widths refer to fully troughed conveyors and are the minimum at which a conveyor can handle its maximum capacity without spillage.

LOADING THE CONVEYOR

The maximum load a conveyor belt can carry depends to a large extent upon the method of feeding the material on to it. The main requirements of correct loading are firstly to place the material centrally on the belt as gently as possible and secondly to deliver the material to the conveyor in the direction in which it is moving and as nearly as can be at the same speed. This ensures that the conveyor has only to carry the load and not to overcome its inertia. Right angled loading contributes more to belt wear than any other factor. When the conveyor is working underground it is advisable to totally enclose loading points thus minimizing dust.

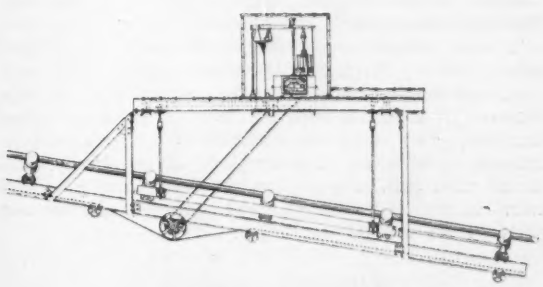
The carrying capacity of a conveyor where loading is effected at more than one point along its run is increased by the use of tripper regulators. These may be of any desired length, usually 20 ft. or so, and are driven by a driving chain transmitting the power from the tripper drum shaft. Alternatively, the tripper may be independently driven by a small motor thus relieving load on conveyor motor. Speed of the tripper belt is less than that of the main conveyor, being about 60 per cent of the latter. With this regulator all material already on the conveyor, together with that being received from say a subsidiary conveyor, is mixed and delivered in one homogeneous stream in the direction of belt movement. Trippers may be introduced where there is a change of gradient along the belt run. They enable the belt to negotiate depressions, as the tripper unit, being firmly attached to girder bed plates, prevents the belt from rising clear of the idlers and giving rise to spillage.

CAPACITY AND SPILLAGE

Other methods adopted to ensure maximum capacity and minimize spillage include means of centralizing the material on the belt such as :

(1) Hopper plates over the edge of the belt at receiving points ;
(2) spring loaded guide plates set as arms at receiving points. These effectively centralize large pieces but do not satisfactorily deal with fines ;
(3) increased troughing for a short distance at receiving points. This is easily effected by increasing the angle of the idlers, e.g. if the normal inclination is 20° the special elevation should be about 30°.

These methods help towards achieving good loading, and the means taken to maintain the material on the belt are discussed subsequently. One of the disadvantages of a belt conveying system where a main belt gathers material from several subsidiary units, lies in the difficulty of correctly apportioning the loads to the various units feeding the main belt. This is of paramount importance in many mechanized coal mines where the output from several faces is mixed and carried on a main trunk belt. As payment to the miner is often on an output basis, in order to correctly assess individual face outputs it is necessary to have some method of weighing the coal in transit. There are several means of obtaining continuous weighing of the material while on a belt, of which the so-called weightometer is perhaps the best known. Different types have slightly differing constructional details but the *modis operandi* is common to all.



Weightometer with covers removed

The loaded belt runs over a suspended platform forming an independent part of the conveyor structure. This platform carries three or four idler sets which support a given length of belt. The entire platform is suspended from the weighing levers of the scale, which integrates the continuous load passing over the suspended section of belt. The mechanism of the integrator can be set for any particular belt speed and in order to achieve as great an accuracy as possible it is advisable that the tension in the belt as it passes through the weightometer be as near constant as possible. Hence the weighing machine is best sited away from the driving

unit preferably near the point where the belt receives its load. Gravity take-ups are favoured for use on conveyors fitted with weightometers as they assist in giving uniformity of tension. With judicious siting and reasonably uniform conditions weightometers are accurate to ±0.5 per cent. Weightometers can be fitted on belts of any inclinations. A typical installation is shown on the previous page.

The drive for the integrator is via a chain or belt, driven from the return strand. It is of interest to know that one firm alone has over 100 weightometers operating in the Mesabi Iron range. Automatic weighing devices have a wide application in mineral dressing plants and quarries. A large metal mine at Cruz in Chile recently installed a weightometer to measure up to 6,000 tons per hour.

Another automatic weighing device is the poidometer. This feeds the material from a hopper in a uniform stream on to a short independent belt conveyor and thence on to the main belt or bin. The weight of material on the measuring belt actuates a scale beam, the movement of which raises or lowers a gate controlling the rate of flow from the feed hopper. This in effect limits the flow from the feed hopper to a certain pre-determined load per foot of measuring belt. A meter records the travel of the measuring belt and this figure multiplied by the weight per foot of belt as fixed by the scale beam adjustment gives the weight of material handled in any given period.

Should the level of the material in the feed hopper fall below the control gate, the motor driving the measuring belt automatically stops. When the hopper is filled again the measuring belt automatically starts. The poidometer has the advantage of giving a constant feed to the main belt this being a very desirable feature. With direct loading on to a conveyor belt the latter is usually designed to have a maximum capacity twice as great as the average output expected. This allows for any peak loading which may obtain. With the uniform delivery and non-flooding characteristic of the poidometer the main conveyor can be designed purely by consideration of the flow through the machine.

Where a main gathering conveyor receives material from several loading points along its length it will be apparent that spillage will be unavoidable in the event of all the subsidiary conveyors delivering peak load simultaneously. To obviate this spillage, load controllers may be introduced. These are virtually simplified weightometers merely consisting of a suspended section of belt attached to the weighing levers of a scale. These are installed on the main belt a short distance before the intermediate loading point. When the main belt is fully loaded the scale registers this fact and causes a break in the electrical circuit of the intermediate conveyor. This stops the intermediate conveyor and so prevents it delivering its material on to an already fully loaded main belt. As soon as the flood loading on the main conveyor is finished the load controller operates and starts up the subsidiary conveyor.

SEQUENCE CONTROL

Belt conveyors can handle for a given labour force a larger tonnage than any other system of haulage, including locomotive. This was a finding of a committee investigating underground haulage in Britain and needs little further qualification. Where an intricate system of conveying is in operation, any large saving in haulage personnel may be nullified by the necessity of having attendants at each of the terminal drives of individual conveyors. It is in such conditions that sequence control finds its best application. Sequence control in its essentials is the electrical arrangement whereby in a system of conveyor belts the nearest conveyor to the main discharge point starts first and the auxiliary conveyors are automatically started at 5-10 second intervals, the farthest away starting up last. Broadly speaking there are two principle methods of effecting sequence control ; either by means of time sequence relays or belt actuated roller switches.

In the first method the desired time lag required between the starting of each belt and the succeeding belt is obtained by an appropriate electrical circuit in the contactor unit controlling the nearest conveyor to the main discharge point. When the starting switch for this conveyor is put to the "on" position the conveyor will start and without any further attention from the operator, the other conveyors in the system will start up in sequence. This staggering of the starting has the added advantage of bringing in the electrical load gradually and is not an abrupt switch on to line as would obtain if all the conveyors started up simultaneously. Bearing in mind that the cumulative total of such a conveyor system may be several hundred horsepower, staggered starting is seen to be an important consideration.

ACTUATED ROLLER SWITCHES

The use of belt actuated roller switches is widespread. There are many different types of such switches but all operate by virtue of being placed in contact with the belt of the conveyor immediately preceding the conveyor it is desired to control. In the centrifugal sequence control switch a driving pulley bears against the surface of the driving belt and as this latter moves the pulley rotates and governor weights attached to the pulley shaft are flung out and so cause an electrical pilot circuit to be completed. This pilot circuit is part of the electrical circuit controlling the subsidiary conveyor and its completion enables the main contactor switch of the controlled conveyor to draw in and so start the subsidiary belt. Provision can be made to enable the subsidiary conveyor to be operated independently of the controlling conveyor if it is required. By varying the pulley diameter the rotational speed of the pulley shaft can be increased or decreased and so the subsidiary conveyor is started whenever the controlling conveyor attains a predetermined speed. Stopping the controlling conveyor will of course cause the governor weights to take up the static position and so the subsidiary belt pilot circuit will be broken.

Another variation of this type of sequence control switch carries in the housing a small generator actuated by the rotation of the driving pulley. The output from this generator increases with increase in rotational velocity of the driving pulley and when the controlling belt has picked up sufficient speed the generated current is sufficient to actuate a relay so causing completion of the electrical circuit of the subsidiary conveyor.

One of the dangers of a sequence controlled belt system occurs when a constituent conveyor belt sticks or slips. In such an event the conveyors behind the belt in question would of course be stopped in sequence but the driving drum of the stuck belt would continue to rotate, with consequent generation of heat by friction. If inflammable belting were employed this would rapidly cause a fire, especially in view of the fact that belt attendants would not be present. It is to obviate such danger that belt protection switches were introduced. These are similar to the switches described but differ in that their function is to control the actuating conveyor and not a subsequent belt. They are placed near the head of each conveyor and are electrically interlocked with the controlling panel of this conveyor. If, after attaining full speed, the belt speed should fall by 25 per cent, reduction in rotational speed of the slip protection pulley causes the appropriate circuit to be broken and hence cuts off the power to the conveyor. With such devices large belt conveying systems can be operated with the minimum of personnel but it is a general practice to have periodic inspections whilst conveyors are running ; one man to be responsible for say, one mile of conveyor run.

Productivity in Coal Mines

Representatives of 17 coal producing countries attended the fifth session of the Coal Committee of the International Labour Organization in Dusseldorf. The subject of productivity was one of the principal items on the agenda and in the following article our coal correspondent gives details of the steps being taken in various countries to raise output per manshift. The countries are mentioned in the order in which they were considered in the I.L.O. report.

The fifth session of the Coal Committee of the International Labour Organization was held at Dusseldorf from November 30 to December 12 to discuss present trends in the coal mining industry. The meetings were attended by representatives of the governments, employers and workers of 17 coal-producing countries. This organization is primarily concerned with social welfare and conditions of employment, and at this session the subject of productivity in coal mines was one of the principal items on the agenda, because it is becoming increasingly evident that the well-being of coal mining communities will ultimately depend on the relative costs of the energy derived from coal and other sources.

The prosperity of the coal industry in America is already being threatened by the inroads which oil and natural gas are making into industrial and domestic markets. The consumption of coal in the United States last year was less than it was in 1912 and production fell from 523,000,000 tons in 1951 to 458,000,000 tons in 1952; the figures for 1953 indicate that the demand for coal is still falling. There is, however, less freedom of choice in most other countries and coal is likely to remain the predominant source of energy in Western Europe for many years to come, although a smaller proportion of the total power output is now being obtained from coal, particularly in France.

One of the reports issued by the International Labour Office deals exclusively with the steps which are being taken in different countries to raise productivity in coal mines and with the relevant geological, technological and psychological factors. Output per manshift varies widely in different parts of the world, it is high in the United States and relatively low in Western Europe, India and Japan. Apart from the average depths at which coal is mined and the average thickness of the seams worked, the other geological factors taken into account are the nature and inclination of the strata and the methane content and dustiness of the seams. The United States is highly favoured in all these respects compared with other countries, but in Belgium, where the output per manshift is the lowest in Europe, the natural conditions are unfavourable.

IMPORTANCE OF PERSONAL FACTORS

Whilst geological factors are responsible to some extent for variations in productivity, the report says that neither favourable natural conditions nor technological developments suffice to explain the great disparity between individual outputs in the United States and Europe, and it is suggested that much more depends on the general attitude of the miners than is often realized. Coal miners in the United States have little social security but they earn good wages which enable them to enjoy a high standard of living. When mechanical loading became a standard practice in the bituminous mines, payment by piece rates was abolished in favour of the day-wage system and high fixed wages, differing by less than 25 per cent between the highest and lowest paid workers, are said to have eliminated the prejudice of the miners against mechanization because increased productivity no longer gives rise to the fear that piece-rates will be cut. On the contrary, since security of employment depends on the prosperity of the whole undertaking the miners welcome any improvement which leads to greater production.

It is of interest to note in this connection that the Coal Committee of O.E.E.C. recently came to a different conclusion on this question. They believe that payment by results provides the most powerful incentive to higher productivity but they admitted that it would be difficult to operate the piece-rate system in conjunction with a high degree of mechanization.

METHODS OF RAISING OUTPUT

In North America remarkably high productivities have recently been obtained with machines of the continuous miner class and it is predicted that these machines will come into general use within the next few years. Over 70 per cent of the bituminous coal mined in the United States is already being loaded mechanically by loaders of conventional types and trunk belt conveyors running at speeds up to 575 ft.p.m. are contributing substantially to the reduction of unproductive labour underground. Roof bolting is also saving labour on maintenance work and a new method of blasting with compressed air is said to be meeting with success. In Canada as a whole, the output per manshift has been declining because of increasing natural difficulties in the older mining regions in the east. The trend in the newer coalfields in Alberta and British Columbia is, however, in the opposite direction and open-cast mining is in the ascendant.

In Australia the geological conditions in New South Wales are comparable with those in America but productivity in Australia is considerably lower than in the United States. It has fallen since 1938 and increased mechanization since the war has so far had little effect. Labour relations in New South Wales have been unsatisfactory during recent years and the miners are still reluctant to use machines, particularly for the extraction of pillars. The government is now taking steps to remedy the most obvious defects in the mining industry and in the coal transport and marketing systems.

In Africa only about 3,300 Europeans are employed in coal mining in the Union of South Africa compared with over 50,000 unskilled native workers, but the output per manshift is higher than in Great Britain and other European countries in spite of the difficulties caused by a large annual turnover in the labour force. Mechanical coal-cutters are widely used and main haulage is done by locomotives and conveyors but the existence of thick seams at shallow depths and the absence of geological disturbances are the main reasons why a reasonably high output can be maintained with this class of labour. References have been made in recent issues of *The Mining Journal* to the rapid expansion which is taking place in the generation of electrical power in South Africa and to the beginnings of a new industry for the production of oil from low-grade coal.

In the Federal Republic of Germany great difficulties are being experienced in the reconstruction of the mines in the Ruhr, partly on account of war damage and partly because production during the war had to be kept up at the expense of development work underground. These are given as the main reasons for the fact that total production and productivity at present are only about 70 per cent of the corresponding values in 1936 whilst general industrial productivity is 10 per cent higher than it was before the war. There has been some increase in coal-face mechanization during the last five years but German mining engineers have come to the conclusion that neither American

methods nor machines can be adapted to the mining conditions in West Germany. Labour problems are intensified by the unavoidable necessity of employing about 65,000 physically unfit men and by a scarcity of miners in the medium age groups. Most of the existing pits were opened over 70 years ago and the majority of them are nearing the end of their economic life, therefore capital investment on a big scale is required to put the industry on its feet.

Productivity in Belgium is the lowest in Europe, mainly on account of exceptionally unfavourable geological conditions in the southern coalfield. A large number of foreign workers had to be brought into the mines after the war, mainly from Italy, and their presence leads to instability in the labour force which also has a detrimental effect on the output. Coal is mined at depths of over 4,000 ft. at some of the pits and large amounts of methane are often encountered which makes it unsafe to use modern electrical machinery at the coal face. This problem has, however, stimulated the development of methane drainage schemes which are now being copied in other countries. Refrigerators have been installed to cool some of the deepest workings to improve conditions where they are most detrimental to productivity.

Productivity has been rising steadily in France since 1948 and it is now about 10 per cent higher than before the war. This is the result mainly of technical improvements which have taken place since the mines were nationalized in 1946. Good progress has been made in improving the winding and haulage systems but geoligical obstacles have impeded the rate of mechanization at the coal faces, except in the sphere of mechanical stowing. The use of electric power is being extended but compressed air still accounts for over 50 per cent of the power used underground.

The coal industry in the Netherlands was developed long after it had been established in neighbouring countries and good planning from the start enabled the large Dutch mines to take the lead in European productivity, since 1950, however, the output per manshift has been falling and at the moment Holland is only just holding her lead against Great Britain. It is reported that an effort is being made to arrest the downward trend in productivity by concentrating on the more accessible deposits, but this may not be a good policy in the long run in a country with limited reserves of coal.

The information given in the report about current trends in Great Britain is based on the data given in the Annual Report and Accounts of the National Coal Board and the Report of the Anglo-American Council on Productivity, both of which have already been summarized in recent issues of *The Mining Journal*.

PROBLEMS IN ASIA

The coal industry in India has never been mechanized on American or European lines and its low productivity in the past did not call for special comment. In 1950, however, the Government set up a working party to study the problem but it is clear that rapid mechanization of the coal mines would create a vast problem of unemployment and progress in this direction must therefore be regulated by the pace of industrial development in the country as a whole.

Productivity in the Japanese coal industry reached its lowest point in 1946 and by 1951 it was still 40 per cent below the pre-war level. Most of the skilled workers left the industry during the war and underground development work practically ceased. Drift mines are common and their equipment has become obsolete. Labour troubles have been frequent and a major strike took place last year which lasted from October to December. The reconstruction of the industry will involve the sinking of vertical shafts and the training of a new generation of miners.

Outlook for Nickel

Demand for nickel throughout the free world in 1953 continued at a high level, with defence needs again restricting the amount of the metal available for civilian applications, Dr. John F. Thompson, Chairman of the Board of Directors of the International Nickel Company of Canada Limited, stated to-day in a year-end review of the nickel industry.

"It is estimated that almost half of the production of the free world during the year was allocated for its military, atomic energy and stockpile requirements," Dr. Thompson said. "Over 65 per cent of this 1953 output went to the United States for both defence and civilian purposes.

"Production of nickel by the free world is expected to approximate 340,000,000 lb. this year, an increase of about 20,000,000 lb. over 1952, and 50,000,000 lb. over 1951," he continued. "Canadian output, it is estimated, will reach 285,000,000 lb. in 1953, or about 85 per cent of the free world's total production.

"Governmental restrictions on the allocation and end uses of nickel in various countries, which had been in effect for several years, were substantially relaxed in 1953. The relaxation of controls occurred as a result of the progressive decrease in military demands, commencing in mid-year, and the maintenance of a constantly high level of nickel production throughout the year. The easing of military requirements allowed additional supplies of nickel to flow into the civilian economy.

"During 1953, the nickel industry has continued its extensive search for new nickel deposits. In Canada, particularly, this programme has been on a scale far surpassing anything previously undertaken. The established producers of nickel have under way expansion programmes which, with the output of new companies in the field, should further increase the overall supply of nickel available to the free world."

WORLD PRODUCTION TO EXPAND IN 1954

Dr. Thompson said that International Nickel's contract with the Defence Materials Procurement Agency of the United States Government, announced in June, was an important result of the completion during 1953 of certain mining and metallurgical developments climaxing years of planning and research, coupled with the rapid advances in the company's underground mining expansion programme. "Under this contract," he continued, "a total of 120,000,000 lb. of metallic nickel will be delivered over a period of five years ending in 1958.

"The research which made the increased nickel production possible had as a corollary a new process for the recovery of high-grade by-product iron ore from the nickel ores of the Sudbury District of Ontario. This development will enable International Nickel to supply iron ore higher in grade than any now produced in quantity in North America."

Dr. Thompson added: "Coupled with the continued diversification of markets for nickel in recent years, there has been a substantial increase in the metal's production. This greater output has been less apparent because of the large requirements of the defence programmes and stockpiling desires of countries of the free world. Since 1949, the year prior to the beginning of the Korean conflict, the nickel industry of the free world has increased its annual production from about 265,000,000 lb. to approximately 340,000,000 lb., or over 25 per cent. The further increase now achieved in International Nickel's production capacity and other expansion programmes under way indicate that free world nickel production should reach about 385,000,000 lb. in 1954. Based upon announced expansion programmes, the free world capacity by 1960 should be at least 75 per cent greater than that existing in 1949.

"Much of the expected 1954 world production increase is under contract by the United States Government and will be delivered to it for defence and stockpile purposes. Whether the supply in the United States for civilian purposes will improve or lessen will depend upon changes in the military requirements and whether the United States Government makes diversions to the stockpile out of nickel supplies which heretofore have been made available for civilian consumption."

METALS, MINERALS AND ALLOYS

The New Year is opening with more pronounced signs of an impending American business recession than we have seen since 1949. Some of the implications of this are considered in our leading "Note and Comment" this week, while elsewhere in this section our London Metal Exchange Correspondent points to the kinds of market repercussions which may be looked for here in such an eventuality.

In contrast to this picture, Mr. Fleming, Director of Washington's O.D.M., has issued a revised stockpile directive to the G.S.A. listing 29 strategic and critical materials for which a stockpile target is to be achieved as rapidly as is possible, consistent with avoiding undue hardship to the civilian economy and the payment of excessive prices. The following metals and minerals are included in this list: aluminium, amosite, chrysotile and crocodile asbestos, beryl, refractory and certain other grades of chromite, cobalt, columbite, copper, diamond bort, battery chemical and metal grades of manganese, quicksilver, muscovite block, and muscovite filma mica, molybdenum, nickel, platinum, tantalite and zinc.

It has now been decided to dissolve the Central Group of the I.M.C., the only committee which remained in being after the last of the Commodity Committees, that for manganese-nickel-cobalt, terminated its work at the end of last September. It had been hoped in some quarters that the Central Group would remain in being to provide a meeting-point at international level for discussion of commodity problems as they arose and to provide continuing statistical information.

COPPER. — The sluggish manner in which bookings for January copper deliveries in the States are developing suggest that the break in world copper prices may come somewhat sooner in the New Year than appeared probable a fortnight ago. When discussing the resumption of Chilean copper sales in our issue of December 18 we pointed out that orders for January would be the first upon which the impact of offers of Chilean copper would make itself felt, but in addition to this it is now becoming apparent that January bookings are well below normal for this season of the year. All fabricators are, presumably, moving very cautiously at the moment in the face of the much publicized recession looked for in the coming year and the hesitation in the copper market reflects similar sentiment by American steel users.

Trade circles in New York estimated that by Christmas some 15,000 tons of Chilean copper had been sold on the American market for prompt sale from American held stocks. This has all been sold on a 30 c. basis, while customs smelters continue to offer at around 29½ c.

One factor which may help to support the copper price in the immediate future is the likelihood of another strike at the Chuquicamata and the Portrerillos plants of Anaconda and Kennecott. The American companies are taking up the position that they are unable to meet any wage increases until more favourable foreign exchange and tax arrangements have been negotiated. Moreover, it does not seem to be expected in New York that negotiations for the U.S. stockpile purchases of surplus Chilean copper will get under way until the Chilean Congress has passed the legislation foreshadowed in the *M.J.* of December 18 to remove the discriminatory exchange rate and revise the basis of copper company taxation. This, in turn, must await completion of negotiations between the Chilean Ministers of Finance and Mines and the local American producing companies. These are in progress.

LEAD.—U.S. lead buying for January is likewise showing signs of being at a reduced rate although the market does not appear to be expecting any recession from the 13½ c. price level provided that demand for lead this side of the Atlantic remains sufficiently good to keep foreign lead off the market. A significant pointer in this connection may perhaps be seen in the sale shortly before Christmas of 1,000 tons of European lead on the American market at ½ c. below the domestic price. This is probably the first time for a number of months that foreign lead has been marketed below the domestic price.

TIN.—On the assumption that the American attitude to the Tin Restriction Agreement will not be known until the Randall Commission makes its report next February or March, all the participating governments have a useful two or three months breathing space in which second or third thoughts on the scheme can be re-examined. As a start, Mr. G. W. Simms' remarks on tin control at the recent meeting of Sungei Besi Mines and Ayer Hitam Tin Dredging should be made compulsory reading for all those upon whom the eventual responsibility for launching or rejecting the scheme must rest.

It will no doubt be said that Mr. Simms was speaking on behalf of the operators of the higher grade large-output dredges, which companies are best placed to maintain production in the event of continued low prices and will suffer most in this situation from compulsory curtailment of output. While this may be true, it should not, in our view, be allowed to detract from the essential soundness of his case.

Mr. Simms' argument is in part concerned with the fallacy that any restriction scheme can simultaneously assure a stable level of production and a stable price. If the price is to be kept steady then quota production must be varied sharply and unpredictably to achieve this with consequent dislocation of mining production programmes. Indeed, if the experience of the last control scheme may be taken as a guide, producers would be lucky to know their permitted quotas for as much as three months ahead. If, on the other hand, alterations in quota production are going to be effected more gradually and with greater consideration for the economics of production, it is then difficult to see how restriction can be a sufficiently sensitive instrument to steady the price unless buffer stocks are allowed to assume far larger proportions than are visualized.

Mr. Simms also disposes of the suggestion that restriction is primarily necessary to safeguard the Chinese section of the industry. He points out that since the end of 1951 the proportion of tin produced by European countries has fallen from 64.3 per cent to 57.5 per cent, whereas the Chinese figure has increased from 35.7 to 42.5 per cent. He might well have added that the lower capitalization of the Chinese gravel pump mines is making it possible for the more progressive Chinese concerns to re-plan and re-equip their workings with earth-moving equipment and conveyors, which in some cases will bring their costs as low as any in the country, whereas dredge costs per cu. yd. under a restriction scheme must rise rapidly as quotas are reduced.

Mr. Simms also suggests that the appeal of restriction for the Malayan producers as a whole is to a considerable extent based on the assumption that the sale and transfer of domestic quotas will again be permitted as under the old scheme. If, as he implies, the vote would probably go against the scheme if the Government were to withhold this facility under the new agreement, this in itself would seem to be the best possible illustration of the harmful effects which can stem from control.

Excerpts from Mr. Simms' speech appear on page 27.

ZINC.—Latest figures from the American Zinc Institute reflect a progressive increase in smelters stocks which, by the end of November, stood at 165,563 s.tons, or just about double the figure of a year ago. American consumers are continuing to confine purchases to immediate requirements as indeed they can afford to in this situation. However, the zinc price is now so near to putting many more producers out of business that it may well be that reductions in output will successfully enable the metal to hold the present domestic spot price of 10 c.

ALUMINIUM.—Probably no more conclusive comment of the long-term copper-aluminium relationship can be found than that implied in the recent announcement that Kennecott Copper is getting back into the aluminium business just as Anaconda did a year or so back. Whereas, however, Anaconda entered the field as a primary producer, Kennecott is only securing a financial stake in the new industry through the acquisition of a substantial minority holding in the Kaiser Aluminium and Chemical Corporation, for which it is paying $16,250,000. Among American aluminium producers, Kaiser ranks third after Alcoa and Reynolds.

Despite the emphasis on building up domestic production capacity during the planning of the third round expansion programme last spring (which has since been hanging fire), there are now signs that Washington is having second thoughts on this issue in the face of the strong competitive position which cheap Canadian power gives to Alcan and also, no doubt, in the face of increasing pressure on existing U.S. power generation capacity. It is a fair bet that U.S. power generation costs must, from now on, continue to rise fairly sharply for each increment of capacity, at any rate until nuclear energy has become a commercial proposition. The O.D.M. is said to be working on what is described as a "Continental" buying policy for aluminium, which presumably suggests a formula which would, at any rate so far as the aluminium industry is concerned, attempt to do away with some of the inconveniences of the 38th parallel. Meanwhile O.D.M. are said to be turning the heat on military planners to turn in more moderate estimates of future requirements.

MAGNESIUM.—With effect from to-day, magnesium controls, as reflected in the Magnesium Distribution Order 1951, are withdrawn, and all restriction on the acquisition, disposal,

treatment, use and consumption of virgin magnesium and virgin magnesium alloys are removed.

NICKEL.—A report of Dr. Thompson's year-end forecast of the outlook for nickel appears elsewhere in this issue on page 18. This is not the first occasion on which Dr. Thompson has referred to the numerous potential civilian uses, which have been awaiting the running down of military buying pressure for their development, and there seems every prospect that nickel may suffer less than most of the established metals from a business recession.

TITANIUM.—The pressure on titanium production in the U.S. for military purposes is placing the administration in something of a dilemma. The problem is whether to push on with maximum production with present imperfect methods of production, or to wait until a new low cost process has been developed which, with the vast sums being spent on research, can only be a matter of time. It seems probable that the O.D.M. will establish a top-level enquiry to determine a policy and meanwhile the G.S.A. will be urged to negotiate contracts as quickly as possible up to the present authorized maximum of 25,000 tons, only half of which has at present been placed. It is understood that the Metals and Minerals Committee of the National Academy of Sciences will be issuing a report in about three weeks on its study of titanium processes.

TUNGSTEN.—In the past fortnight the Ministry of Materials' selling price for 65 per cent tugnsten and for scheelite have both been reduced by a further 10s. per l.ton unit and stand respectively at 185s. and 170s. The downward trend in ore prices was also continued in New York where the price of foreign ores was being nominally quoted at $24-25 per s.ton unit c.i.f. U.S. ports earlier this week. To this figure must, of course, be added approximately $8 duty. In London the market for ordinary grade wolfram and scheelite appears at the moment to be virtually dead, although there has been some enquiries both from Continental and American sources for high grade scheelite. This, so far, appears to have no effect on prices.

Iron and Steel

Reflecting the recent improvement in the foundry trade, blast furnacemen have recently been handling an increased volume of specifications for pig iron of high phosphorous content. Most of the foundries will resume work after the holidays with more orders in hand than they have had for several months past. The improved demand for castings extends, moreover, to the export trade as well as the home market. Thus, although high phosphorous iron is fairly plentiful, specifications for low phosphorous and haematite irons are not easily satisfied and the consumption of basic iron in the steel plant calls for a further expansion in production.

Re-rollers are still finding it difficult to regain even a modicum of their lost trade in overseas markets and the home demand for small bars and light sections is insufficient to keep the mills fully employed. The consequential reduction in the demand for billets has, however, been offset by the increased calls from the sheet makers for bars and slabs. The sheet mills will begin the new year with heavier bookings than they have had for at least twelve months and orders and inquiries are still rolling in from home and overseas sources.

It is denied that the plate shortage has been overcome, but that the position is certainly easier is indicated by the fact that shipbuilders' outputs in 1953 have been on a better scale than in the preceding year. Orders for colliery and railway equipment are coming along quite nicely, but there has recently been a pause in the flow of specifications for joists and sections, which it is hoped will come to an end early in the new year.

The London Metal Market

(From Our Metal Exchange Correspondent)

Since the last report the members of the Metal Exchange have celebrated Christmas Eve in their usual entertaining manner, and as it appears that the people responsible for the buying for the main consumers started Christmas early and have not yet fully recovered from the after-effects, business has been at a low ebb. The whole scene is now dominated by talks of recession in industrial activity in the United States, as if this is to occur and to assume a scale which exceeds the description of "slight," the effect on non-ferrous metal prices would probably be out of all proportion to the actual state of affairs for the individual metals. In tin the price would fall owing to the reluctance of the chief buyer (America) to maintain purchases at a normal rate; in copper a slackening demand in the U.S. would tend to force Chilean copper on the market; in lead the present sales of reasonable tonnages of European lead to the United States would cease; whilst in zinc the American producers might be tempted to sell and deliver more metal in London. There is, however, one compensating factor which should operate in theory, namely, the replacement of their depleted stocks by users of metals on this side of the Atlantic when prices became lower, but as experience has shown that the majority will rarely buy more than they need whilst prices are falling, this factor is unlikely to play much part until there is the inevitable technical reaction after the first fall in prices.

As far as 1954 is concerned, the Metal Exchange looks forward to a year of progress and consolidation, the first step towards which will almost certainly be the introduction of an amended standard lead contract shortening the permitted period of delivery, to be followed later by an amended zinc contract with the same object.

On Thursday morning the Eastern price was equivalent to £649¼ per ton c.i.f. Europe.

Closing prices and turnovers are given in the following table:—

	December 17		December 31	
	Buyers	*Sellers*	*Buyers*	*Sellers*
Tin				
Cash	£655	£657½	£655	£657½
Three months	£635	£637½	£630	£632½
Settlement	£655		£655	
Week's turnover	480 tons		570 tons	
Lead				
Current month	£90½	£90½	£89½	£89½
Three months	£88½	£88½	£88	£88¼
Week's turnover	3,825 tons		5,800 tons	
Zinc				
Current month	£74½	£75	£74½	£75
Three months	£74¼	£74½	£73½	£73½
Week's turnover	3,400 tons		2,325 tons	
Copper				
Cash	£238	£229	£235	£235½
Three months	£218½	£219	£221½	£222
Settlement	£229		£235½	
Week's turnover	5,225 tons		6,150 tons	

OTHER LONDON PRICES — DECEMBER 30

ANTIMONY

English (99%) delivered, 10 cwt. and over .. .. £210 per ton
Crude (70%) .. .. .. £200 per ton
Ore (60% basis) .. .. .. 22s./24s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) .. .. £483 per ton .

OTHER METALS

Aluminium, 99·5% £150 per ton
Bismuth (min. 4 cwt. lots) 16s. lb.
Cadmium (Empire), 13s. 10d./14s. 4d. lb.
Chromium, 6s. 5d./7s. 6d. lb.
Cobalt, 20s. lb.
Gold, 248s. f.oz.
Iridium, £60 oz. nom.
Magnesium, 2s. 10½d. lb.
Manganese Metal (96%-98%) £225/£262
Osmiridium, £40 oz. nom.
Osmium, £65/£70 oz. nom.
Palladium, £7 15s./£8 10s. oz.
Platinum, £27/£33 5s.
Rhodium, £42 10s. oz.
Ruthenium, £25 oz.
Quicksilver, £61 15s. ex-warehouse
Selenium, 30s. 6d. nom. per lb.
Silver 73¾d. f.oz. spot and f'd.
Tellurium, 15s./16s. lb.

ORES, ALLOYS, ETC.

Bismuth .. .. 50% 7s. 3d. lb. c.i.f.
40% 6s. 3d. lb. c.i.f.
Chrome Ore—
Rhodesian Metallurgical (lumpy) £14 8s. 0d. per ton c.i.f.
,, ,, (concentrates) £14 8s. 0d. per ton c.i.f.
,, ,, Refractory £14 0s. 0d. per ton c.i.f.
Baluchistan Metallurgical .. £15 19s. 6d. per ton c.i.f.
Magnesite, ground calcined .. £26 - £27 d/d
Magnesite, Raw .. .. .. £10 - £11 d/d
Molybdenite (85% basis) .. 102s. 4d.-103s. per unit c.i.f.
Wolfram (65%) .. .. .. World buying 160s.-170s.
,, ,, ... 185s. nom. U.K. Selling
Scheelite .. .. World buying 155s.-165s.
,, ... 170s. nom. U.K. Selling
Tungsten Metal Powder (98% Min. W.) .. .. 16s. nom. per lb. (home)
Ferro-tungsten .. .. .. 13s. nom. per lb. (home)
Carbide, 4-cwt. lots .. .. £35 13s. 9d. d/d per ton
Ferro-manganese, home .. .. £52 10s. 0d. per ton
Manganese Ore Indian c.i.f. Europe (46% - 48%) .. .. .. 7s. 11d. - 8s. 4d. per unit
Brass Wire .. .. 2s. 5¾d. per lb. basis
Brass Tubes, solid drawn .. 1s. 10d. per lb. basis

THE MINING MARKETS

(By Our Stock Exchange Correspondent)

The two-week period under review covers the last part of the three-week account stretching over the Christmas and New Year holiday. While this is traditionally a quiet time in stock markets, prices have remained very firm. Gilt-edged were fortified by the considerable strengthening of the sterling area gold and dollar reserves due to large imports of Russian gold. This was sold in London to produce sterling cover for recent purchases by the U.S.S.R.

The coal output figures for the week before Christmas also constituted a record since 1940. A cloud on the horizon, however, is the inflationary effect of higher wages and the possibility of pricing the U.K. out of export markets which are already difficult.

Kaffirs were by far the most interesting section in the mining markets. The gradual seepage of information concerning uranium production and the wider realization of what it will mean both to the South African economy and to the individual mines concerned, brought in sharp buying on markets short of stock.

Among finance houses those directly interested in potential uranium producers benefited most. Johnnies recorded the biggest gain, the new shares nil paid changing hands up to 11s. premium. This jump was undoubtedly caused by the boom in Randfontein. This mine's plant will be one of the largest, also producing sulphuric acid and treating slimes from East Champ D'Or. Luipaards Vlei proportionately recorded an even greater rise. Western Reefs, New Pioneer and Sub Nigel also proved popular. Curiously enough the latter's parent company, Union Corporation, was neglected. The attraction in New Pioneer shares was the belief that the flotation of the new Hartebeeste mine is impending. Dominion Reefs "A" Shares also continued their recent progress and changed hands up to 23s. 6d.

Orange Free State issues did not lag behind Rand shares and all round gains were recorded especially by the more popular mines.

The activity in Kaffirs tended to overshadow other spheres of interest and gold producers domiciled in other parts of the world were idle. Exceptionally, Oroville went ahead sharply. The Board announced negotiations to purchase the company's shares for U.S.$2.50 each. The permission of the U.K. Treasury will be necessary before the offer can be substantiated. The company owns alluvial areas in Columbia and California. It is estimated that the offer is worth about 17s. 9d. a share, but it is possible that the company's assets may in fact be worth rather more.

Diamond shares tended rather easier. The market was overshadowed by the last report. Although net profits were higher the chairman spoke of taxation difficulties and heavy losses from theft and illicit mining.

Coppers generally declined. There have been certain disagreements with labour, both white and coloured, on the Rhodesian belt. Rhodesia Katangas returned to speculative favour on hopes that another borehole result may be forthcoming before very long.

In the lead/zinc section Consolidated Zinc and other Australian leaders rose after reports of proposed oil exploration. Lake George were flat on the strike news. Buying of Wankie shares on the long term view was also reported. Latest indications from Rhodesia show that the potential demand for the company's coal is as strong as ever, provided output can be stepped up to meet the demand. This is bound to take time. Canadians lost ground on the uncertain trend in transatlantic markets. Base metal shares were particularly vulnerable. International Nickel were easier but later steadied on the news of the big increase in production planned for the next few years. While restrictions in supply and use of the metal have been eased, there is by no means a surplus of production and in authoritative circles it is anticipated that increased use by manufacturers will replace, at any rate for the time being, the lower quantity absorbed by the defence programmes.

	Price Dec. 30	+ or — on week
FINANCE		
African & European	2⅛	+1/32
Anglo American Corpn.	5 11/16	+1/16
Anglo-French	17/3	+6d
Anglo Transvaal Consol.	20/-	.....
Central Mining (£1 shrs.)	28/3	—3d
Consolidated Goldfields	50/9	+1/6
Consol. Mines Selection	28/1½	.....
East Rand Consols	4/3	+1/1½
General Mining	3 1/16	+1/16
H.E. Prop	41/3	+3/1½
Henderson's Transvaal	7/9	+4½d
Johnnies	49/6XR	+5/9
Rand Mines	3 1/16	+1/16
Rand Selection	31/10½	+1/10½
Strathmore Consol.	34/4½	+1/10½
Union Corp. (2/6 units)	28/3	.....
Vereeniging Estates	3 1/16	.....
Writs	33/1½	+7½d
West Wits	41/9	—6d
RAND GOLD		
Blyvoors	36/6	+9d
Brakpan	9/6	+6d
City Deep	18/1½	+1/10½
Consol. Main Reef	18/9	+1/10½
Crown	38/9	+3/1½
Daggas	3½	+1/32
Doornfontein	27/-	+1/-
Durban Deep	34/4½	.....
E. Daggas	14/3	+3d
E. Geduld (4/- units)	28/6	+1/7½
E. Rand Props	2⅛	.....
Geduld	3 1/16	+1/16
Govt. Areas	12/-	+6d
Grootvlei	21/9	+1/3
Libanon	9/7½	+3d
Luipaards Vlei	28/-	+5/3
Marievale	21/-	+1/9
Modderfontein East	15/-	.....
New Kleinfontein	15/7½	—7½d
New Pioneer	20/6	+3/-
Randfontein	68/6	+10/-
Robinson Deep	11/6	+6d
Rose Deep	13/1½	.....
Simmer & Jack	4/10½	+3d
S.A. Lands	22/6	+1/3
Springs	5/1½	+7½d
Stilfontein	28/1½	+1/-
Sub Nigel	42/6	+2/6
Van Dyk	5/-	.....
Ventersdorp	14/-	—3d
Vlakfontein	16/-	+2/9
Vogelstruisbult	37/9	+2/3
West Driefontein	5 11/16	—1/16
W. Rand Consolidated	2 1/32	.....
Western Reefs	2 1/32	+1/32
O.F.S.		
Freddies	10/3	+1/3
Freddies N.	9/9	+1/1½
Freddies S.	9/1½	+10½d
F. S. Geduld	2 1/16	+1/32
Geoffries	14/7½	+7½d
Harmony	27/4½	+1/7½
Loraine	9/-	+1/-
Lydenburg Estates	13/6	+1/6
Merriespruit	9/-	+6d
Middle Wits	15/7½	+1/7½
Ofsits	41/3	+3/6
President Brand	34/1½	+3/7½
President Steyn	24/1½	+2/-
St. Helena	16/6	+4½d
Virginia Ord.	12/3	+7½d
Welkom	19/3	+1/3
Western Holdings	3 1/16	+1/16
WEST AFRICAN GOLD		
Amalgamated Banket	1/7½	.....
Ariston	5/7½	.....
Ashanti	19/6	—4½d
Bibiani	5/-	.....
Bremang	2/3	+1½d
G.C. Main Reef	3/4½	+1½d
G.C. Selection Trust	6/1½	—1½d
Konongo	2/1½	—1½d
Lyndhurst Deep	1/-	.....
Marlu	1/4½	—1½d
Taquah & Abosso	2/3	.....
AUSTRALIAN GOLD		
Boulder Perseverance	2/7½	.....
Gold Mines of Kalgoorlie	14/3	+9d
Great Boulder Prop.	8/3	.....
Lake View and Star	13/9	.....
Mount Morgan	17/-	.....
North Kalgurli	6/4½	.....
Sons of Gwalia	5/6	.....
South Kalgurli	6/7½	+1½d
Western Mining	12/6	+1/3
MISCELLANEOUS GOLD		
Cam and Motor	9/4½	—1½d
Champion Reef	4/3	.....
Falcon Mines	7/-	.....
Globe & Phoenix	22/-	+3d
G.F. Rhodesian	5/10½	+6d
London & Rhodesian	4/6	—3d
Motapa	1/10½	.....
Mysore	4/1½	.....
Nundydroog	5/7½	.....
Ooregum	3/-	.....
Oroville	16/9	+4/-
MISCELLANEOUS GOLD (contd.)		
St. John d'El Rey	21/-	—1/-
Zams	31/6	+3d
DIAMONDS & PLATINUM		
Anglo American Inv.	4 3/32	—1/32
Casts	20/3	—1/3
Cons. Diam. of S.W.A.	4½XD	—1/4
De Beers Defd. Bearer	68/-	—3d
De Beers Pfd. Bearer	15½XD	—⅜
Pots Platinum	8/6	+7½d
Watervaal	13/6	+9d
COPPER		
Chartered	52/-	—9d
Esperanza	7/3	+3d
Indian Copper	4/-	.....
Messina	2½	+1/32
Nchanga	6 11/32XD	—3/32
Rhod. Anglo-American	46/6	—1/-
Rhod. Katanga	15/6	+1/9
Rhodesian Selection	13/1½	—4½d
Rhokana	17⅛	—⅛
Rio Tinto	19½	—¼
Roan Antelope	13/6	.....
Selection Trust	33/9XD	+1/3
Tanks	58/9	+9d
Tharsis Sulphur Br.	43/1½	.....
TIN (Eastern)		
Ayer Hitam	25/4½	+1/4½
Bangrin	8/-	.....
Gopeng	8/-	.....
Hongkong	6/6	.....
Ipoh	15/-	.....
Kamunting	9/1½	+1½d
Kepong Dredging	4/4½	+1½d
Kinta Tin Mines	9/9	—6d
Malayan Dredging	26/9	+6d
Pahang	12/3	.....
Pengkalen	8/-	.....
Petaling	8/3	+3d
Rambutan	12/-	.....
Siamese Tin	7/6XD	—6d
Southern Kinta	13/3	+3d
S. Malayan	24/6	+1½d
S. Tronoh	7/4½	+1½d
Sungei Kinta	10/-	.....
Tekka Taiping	5/6	+3d
Tronoh	24/3	+1/-
TIN (Nigerian and Miscellaneous)		
Amalgamated Tin	11/1½	—4½d
Beralt Tin	18/9	—1/3
Bisichi	4/4½	—1½d
British Tin Inv.	12/1½	+1½d
Ex-Lands Nigeria	3/3	—3d
TIN (Nigerian and Miscellaneous) contd.		
Geevor Tin	10/-	+3d
Gold & Base Metal	2/10½	—1½d
Jantar Nigeria	7/1½	—7½d
Jos Tin Area	12/6	+3d
Kaduna Prospectors	2/4½	.....
Kaduna Syndicate	2/3	.....
London Tin	5/1½	.....
United Tin	3/1½	—1½d
SILVER, LEAD, ZINC		
Broken Hill South	41/3	.....
Burma Mines	1/9	.....
Consol. Zinc	27/-	+2/6
Lake George	5/6	—1/3
Mount Isa	31/6	+1/-
New Broken Hill	22/6	.....
North Broken Hill	2 1/16	.....
Rhodesian Broken Hill	8/7½XD	—1/10½
San Francisco Mines	17/6	.....
Uruwira	2/6	.....
MISCELLANEOUS BASE METALS & COAL		
Amal. Collieries of S.A.	43/3	+3d
Associated Manganese	45/-XD	—3/-
Cape Asbestos	23/-XD	+4½d
C.P. Manganese	53/1½	+7½d
Consol. Murchison	26/-	+1/-
Mashaba	3d	.....
Natal Navigation	2 11/32XD	+1/32
Rhod. Monteleo	1/3	.....
Turner & Newall	70/6XD	+1/9
Wankie	14/3	+1/3
Witbank Colliery	3 1/16	.....
CANADIAN MINES		
Dome	$28¼	.....
Hollinger	$22½	—¼
Hudson Bay Mining	$72	—1
International Nickel	$63¼	—¼
Mining Corpn. of Canada	£3¾	—¼
Noranda	$111	—4
Quemont	£5⅛	—¼
Yukon	3/7½	—1½d
OIL		
Anglo-Iranian	8 13/32	+5/32
Apex	46/3XD	—1/3
Attock	34/3	—1½d
Burmah	59/6	+2/-
Canadian Eagle	27/3	—10½d
Mexican Eagle	22/6	+1½d
Shell (bearer)	98/9	.....
Trinidad Leasehold	17/3XD	—1½d
T.P.D.	22/6	+3d
Ultramar	29/4½	+9d

COMPANY NEWS AND VIEWS

South West Africa Company's Difficult Year

The report and accounts of the South West Africa Company for the year ended June 30 last, is an interesting document —if only because of the way in which the results of mining operations are presented.

Analysis of Ore Sales Account

Year to June 30	*Lead* (conc.)*	*Vanadium (conc.)*	*Vanadic† Acid*	*Zinc (conc.)*	*Wolfram (con.)*	*Tin (conc.)*
	£	£	£	£	£	£
1953	216,761	138,640	882,539	Nil	32,339	41,598
1952	637,601	230,038	354,513	141,868	40,639	15,428
1951	436,586	98,226	273,176	44,091	7,232	31,675

* Lead ex lead — vanadium concentrates
† Fused vanadic acid from further treatment of the concentrates

For example, an analysis of the ore sales account is given but there is no reference to the tonnages nor has any attempt been made to show the cost-revenue relationship of the different ores produced. Indeed, production of tin and wolfram concentrates during the year are described as "moderate," while the big expansion in the revenue received from the sale of fused vanadic acid is noted in the directors' report as falling short of the anticipated sales increase. However, there is no doubt about the production of zinc concentrates, as the steep decline in the zinc metal price during the year to June 30 last made it impossible for the company to work its deposits at a profit with the result that the extraction of zinc ore from the company's mines was suspended.

Analysis of Mining Costs

Year to June 30	*Mining Costs*	*Refining Costs*	*Shipments Cost**	*Prospecting*	*Admin.† Costs*	*Total Costs*
	£	£	£	£	£	£
1953	400,431	663,557	89,596	31,001	56,406	1,240,991
1952	298,873	259,956	142,592	31,230	47,374	780,025
1951	221,242	124,553	40,256	13,488	29,192	428,731

* Refers to ore shipment and charges by rail to Walvis Bay
† Including headquarters and administration expenses and local taxes

On the other hand, the financial results achieved, though disappointing, will not come as a surprise to shareholders, as Sir Dougal Malcolm, chairman, told shareholders at the company's last annual meeting on December 12, 1952, that they must be prepared to see a considerable reduction in the profits for the year under review. In the circumstances, shareholders were well treated and the payment of 2s. (8s.) per 13s. 4d. share meant that the company had to draw on its forward balance for a substantial portion of the capital required.

Year to June 30	*Gross Revenue*	*Total Costs*	*Taxation*	*Net Profit*	*Dividend*	*Carry Forward*
	£	£	£	£	£	£
1953	1,422,873	1,355,649	55,942*	11,282	29,249	24,750
1952	1,382,308	903,847	320,683	157,778	111,679	42,717
1951	878,708	499,168	213,601	151,618	97,720	46,618

* Including Taxation Credit of £11,343

The balance sheet revealed a big change in the net current asset position. In the preceding year current assets totalled £838,721 and current liabilities £481,780, giving a net current asset figure of £346,941 which was nearly equal to the company's issued capital of £354,538. In the latest balance sheet current assets were shown at £546,858, while current liabilities, which includes an overdraft of £81,202 (nil), have risen to £513,389, thus giving a net current asset figure of only £33,469, more than half of which would be absorbed in meeting the company's outstanding capital expenditure commitments of approximately £18,000.

The meagre resources now at the company's disposal may well be the subject of some comment by the chairman at the annual meeting to be held in London on January 15 next. In any event it will provide an opportunity for giving shareholders a better idea of what are the production figures behind the revenue items in the ore sales account and also, perhaps, to outline what steps, if any, the company are contemplating taking to concentrate efforts on the most profitable sections of its mining operations.

"Tanks" Record Net Profit

The ability of Tanganyika Concessions to raise its total dividend distribution from 40 to 45 per cent in respect of the year ended July 31 last, was due in large measure to the higher total dividend distribution made by Union Minière in which "Tanks" has a substantial holding. In fact, the fortunes of Tanganyika Concessions are closely dependant on Union Minière and during the year to July 31 last "Tanks" received £1,597,424 (£1,276,657) on its holding, which reflects the stepping up of Union Minière's distribution from 1,000 francs to 1,250 francs.

Consolidated Profit and Loss Account

Year to July 31	*Total Income*	*Total Expenses*	*Taxation*	*Net Profit*	*Dividends*	*Carry Forward*
	£	£	£	£	%	£
1953	2,301,491	99,843	143,734	2,057,914	45	995,999
1952	2,098,697	121,307	150,000	1,827,390	40	809,790

As can be seen from the above table, total outgoings were less as were tax liabilities, and the net profit figure recorded of £2,057,914 constituted the highest profit figure ever earned by the company.

The directors in their report state that for the first time the tax authorities in Belgium are seeking to collect tax from the Royalty received from Union Minière and while provision has been made against this contingency, the company is contesting the claim.

The consolidated balance sheet disclosed that no further funds have been loaned to its subsidiary, the Benguela Railway Company, the substantial capital expenditure incurred during the year amounting to £1,186,263, being provided out of profits which, moreover, were sufficient also to provide for the current redemption of the 4 per cent debentures and the payment of one year's interest on the 4 per cent debentures as well as 5 per cent interest on loan account. The balance of the capital expenditure programme for the railway for 1952 to 1954, inclusive, now totals £2,820,000, of which approximately £500,000 is not expected to come forward for delivery until 1955. During the first few months of the current year the net operating receipts of the Benguela Railway are noticeably lower than in the corresponding period of 1952, but the volume of traffic is increasing satisfactorily.

In any event, the outlook for "Tanks" during the current year must be considered good as Union Minière has already declared an unchanged interim dividend of 600 Belgian Congo francs and there appears to be no reason why the final of 650 francs should not be repeated.

Rt. Hon. Sir J. Ulick F. C. Alexander is chairman. Meeting, Salisbury, Southern Rhodesia, January 28.

Burma Corporation Getting Into Its Stride

Burma Corporation (1951), in which Burma Mines Ltd. and the Burmese Government each holds a half interest, announced a profit of no less than £49,585 in respect of the three months ended September 30. This good result compares with a profit of £10,215 in the June quarter and a loss of £55,650 in the March quarter.

As stated in these columns, in our issue of December 11, there were sound grounds for believing that the company was beginning to forge ahead satisfactorily and that with a slightly increased labour force good results could be expected. This has proved to be the case and mine ore extraction at 17,800 tons for the September quarter represented an increase of 45.68 per cent over the June quarter when 12,218 tons were extracted, which, it should be noted, was itself an increase of 22.3 per cent over the March quarter when 9,991 tons were extracted. Thus the company has got off to a good start for the current year and the anticipated end year profit should soon offset the loss of £166,432 incurred on operations for the year ended June 30, 1953.

Further details are given on page 27

Rambutan Lowers Its Costs

Although Rambutan treated a lower grade of ground during the year to June 30 last, the volume was greater by some 30,000 cu. yd., so that the total tin ore recovered of 80.2 tons was virtually the same as that produced in the preceding year of 81.49 tons. But costs per unit of production were appreciably lower and this was a material assistance in helping to offset the lower average price received per ton tin ore.

Year to June 30	*Per Cubic Yard Treated (000)*	*Yield (lb.)*	*Cost (s. d.)*	*Output (tons)*	*Per ton ore Cost*	*Price*
					£	£
1953	301.5	0.60	2.7	80	483	516
1952	268.6	0.68	2.11	81	483	546
1951	448.3	0.43	1.1	86	272	645

Mining revenue from the sales of tin ore at £49,665 fell below the preceding year's income from this source of £53,365, but

tributes receivable (including £3,932 non-recurring) were more than doubled and at £14,640 compared with £7,174 in the previous year. Mining costs, including Government Royalty on ore sales, were well held and although tax charges seemed proportionately higher, the net profit figure showed up to advantage over the preceding year.

Year to June 30	Mining Revenue	Mining Costs	Taxation	Net Profit	Dividend	Carry Forward
	£	£	£	£	%	£
1953	64,700	46,895	9,265	9,527	8¾	12,429
1952	60,539	48,188	5,834	7,855	10	11,669
1951	72,815	33,829	23,310	15,818	15	10,123

The big drop in the price of tin in April last no doubt had a good deal to do with the decision to lower the dividend by 1¼ per cent and to allocate £2,000 to general reserve. Even so, this was achieved without drawing on the forward balance which at the end of June last stood at £12,429, an increase of £760 on that brought in.

During the first three months of the current year, output totalled 21¾ tons against 22½ tons in the corresponding period of the year under review.

"Australians" Make Good Progress in November

Of the ten Australian gold producers listed in the table below, only Central Norseman calls for comment as both the tonnages crushed and oz. recovered were well above the average monthly figures announced this year.

Morning Star and Gold Mines of Kalgoorlie also reported good results, but those of Central Victoria indicate that the grade of ground currently being treated is declining.

AUSTRALIAN GOLD RETURNS - NOVEMBER

Company	4 weeks to December 1		4 weekly period since year-end	Current Financial Year Total to date		Last Financial Year Total to date	
	Tons (000)	Yield (oz.)		Tons (000)	Yield (oz.)	Tons (000)	Yield (oz.)
Boulder Perseverance	9·9	2,606	9	90·5	22,314	89·3	20,458
Central Norseman	12·5	5,740	9	106·7	51,769	112·0	56,515
Central Victoria*	216·2	650	9	1884·1	6,556	1552·2	7,772
Golden Horse Shoe	75·1	804	11	849·3	8,435	837·8	8,946
G.M's of Kalgoorlie	15·4	4,638	9	135·4	39,384	120·0	33,454
Morning Star	1·4	1,353	9	12·8	13,109	14·9	9,859
New Coolgardie	5·4	2,607	9	48·3	22,580	44·1	23,170
North Kalgurlie	19·6	4,307	12	245·2	56,783	219·7	55,794
Sons of Gwalia	8·1	2,137	12	105·0	24,048	86·3	21,667
South Kalgurlie	8·9	1,854	9	79·3	15,827	64·4	14,212

* Cu. yds. dredged

Miscellaneous Gold Returns—November

The strike at St. John d'El Rey, which started on October 14 and ended on November 17, explains the disappointing results announced for October when the estimated value of the gold produced was £63,000 (compared with over £150,000 in September) and for November when the value further declined to £53,000.

The November production returns from New Guinea Gold Fields revealed the lowest number of oz. of gold recovered for some years, and after two months' operations in the current year, output is about half that achieved in the corresponding period of the preceding year, although the tonnage treated is slightly higher.

Saudi Arabian Mining Syndicate had another record month and profits soared to £41,732. This company's end year profit figure should prove a cheering sight for shareholders. Clutha River had another poor month but its cumulative output to-date is still showing to advantage over the corresponding period in the preceding year.

MISCELLANEOUS GOLD RETURNS - NOVEMBER

Company	November, 1953		Month since year end	Current Financial Year Total to date		Last Financial Year Total to date	
	Tons (000)	Yield (oz.)		Tons (000)	Yield (oz.)	Tons (000)	Yield (oz.)
Br. Gu. Consol.	166·5*	1,759	11	2150·9*	14,143	1456·1*	16,427
Clutha River	214·0*	339	8†	1775·0*	3,918	1706·0*	3,752
Frontino	10·1	4,248	11	107·3	51,840	108·8	58,705
Kentan (Geita)	21·3	3,359	5	111·8	16,905	100·8	15,127
New Gu. G'flds.	3·0	980	2	6·0	2,470	5·8	4,201
Saudi Arabian‡	9·6	£41,732	10	92,166	£218,521	101·0	£138,076
St. John d'El Rey	12·4	£53,000	11	285·5	£1,625,018	349·5	£2,642,316

* Cu. yds. dredged † 4 weekly period since year end ‡ October output

November Tin Returns

Of the 46 tin and columbite producers given in the table below, some of the Nigerian tin/columbite producers merit attention.

With the Nigerian columbite producers receiving more than £2,000 per ton for their columbite concentrates, Amalgamated Tin Mines of Nigeria should experience a very prosperous year. This company has been able to increase its output of columbite in the first eight months of the current year by as much as 128 tons over the corresponding total a year ago, while its wholly owned subsidiary, Keffi Tin, has now entered the list of leading columbite producers and in eight months has notched up a total of 102 tons columbite to its credit which should materially assist in swelling the consolidated profit figures of the parent company. Bisichi Tin and Naraguta Tin are also producing more columbite this year than last. But neither of these two companies' columbite output reveals as much contrast with the preceding year's corresponding figures as those of Gold and Base Metals, which has more than trebled its columbite output whilst maintaining approximately the same output of tin as in the corresponding period of the previous year.

NOVEMBER TIN OUTPUT IN TONS OF TIN CONCENTRATES

Company	Nov.	Months since year end	Financial Year to Date		Company	Nov.	Months since year end	Financial Year to Date	
			This	Last				This	Last
EASTERN					**NIGERIA**				
Ampat	109½	11	1154½	830	Bisichi	51	11	472	505
Anglo Burma§	27	6	69	70	Bisichi†	25	11	184	141
Bangrin	69½	11	680½	584	Ex-Lands	70	11	579	541
Batu S.	24½	2	46½	38	Gld & Base	32	11	496	514
Berjuntai	63½	7	347	562	Gld & Base†	7½	11	83	26
Kampong*	1½	8	178	207	Jantar	16	2	32	40
Kamunting	132½	8	898½	1421	Jantar†	18	2	36	38
Kinta K.	34½	8	207½	96	Jos Tin	11½	4	54	55½
Kinta T.	35½	11	318½	274½	Kaduna P.	8½	11	107	72
Klang River	38½	8	333½	241	Kaduna S.	29½	11	327½	250
Kuala K.	156	8	1256½	1360	Keffi	8½	8	34½	191
Kuchai	25½	2	61½	130	Keffi†	23½	8	102	—
Larut	118½	11	610½	670	Naraguta Ex.	9	11	73½	82
Lower Perak	160½	7	645	631	Naraguta K.	13	11	149½	125
Malaysiam	14½	8	76½	46	Naraguta T.	16½	11	214½	264
Pahang	220	4	880	880	Naraguta T.†	7	11	57	42½
Rahman	34	5	196½	195	Ribon	7	8	87	69
Rantau	61½	5	289	395	Rukuba	2½	8	18½	15½
Rawang Conc.	48	8	498	445	S. Bukeru	7½	11	73½	54
Renong	46½	5	334	113	Tinfields of Nig.	1½	8	19	14
S. Kinta	416½	8	3001½	3068	U. Tin	5	5	40	59
Taiping Cons.	43½	11	126½	—	U. Tin†	.07	5	1	—
Tambah	19	11	109½	129					
Tanjong Tin	51½	11	717½	914	**MISC.**				
Tongkah	48½	5	192½	328	Beralt Tin‡	198	8	1528	1442
					Beralt Tin	7	8	64	88
NIGERIA					Geevor	62	8	450	380
Amal. Tin	371	8	2669	2888	S. Crofty	49½	11	503	428
Amal. Tin†	61	8	453	325	S. Crofty‡	1	11	2½	.3

* No. 1 dredge closed for repairs † Columbite ‡ Wolfram § Quarterly

Southern Rhodesian Gold Returns for November

Globe and Phoenix by announcing the best monthly production and profit figures for a number of years, was able to lift its cumulative profits total to date to about £4,000 higher than in the corresponding period a year ago. Motapa, on the other hand, crushed less in November than in any month for at least three years, yet managed to recover virtually the same amount of gold as when milling as much as 24,000 tons per month. This indicates a higher grade of ore being sent to the mill, an event which has been long awaited. In any case, its cumulative profit to date, though disappointing, is double that recorded in the corresponding period in the previous year. Of the three companies in the London and Rhodesian Mining and Land group—Connaught, Rezende, and Cam and Motor—the last named recovered more gold than in any one month since we have been keeping records, but both Rezende and Connaught appear to be having a difficult time in raising their monthly profits above the £1,200-£1,500 mark.

SOUTHERN RHODESIAN GOLD RETURNS - NOVEMBER

Company	November, 1953			Months since year end	Current Financial Year Total to date			Last Financial Year Total to date		
	Tons (000)	Yield (oz.)	Profit (£000)		Tons (000)	Yield (oz.)	Profit (£000)	Tons (000)	Yield (oz.)	Profit (£000)
Arcturus	3·0	—	2·5	5	15·3	—	14·5	15·5	—	15·2
Cam & Motor	24·7	7,700	44·6	5	120·7	37,209	224·2	119·0	30,706	195·0
Connaught	0·8	—	1·3	5	4·0	—	7·4	3·6	—	9·1
Falcon Mines	16·6	2,607	5·9	2	32·6	5,195	11·9	42*	6,484*	16*
Globe & Phoenix	6·0	3,592	25·2	11	66·2	37,485	241·4	66·9	36,528	237·2
Motapa Gold	17·8	2,388	2·5	11	224·7	26,168	15·1	251·7	25,424	7·0
Muriel Mine	2·6	—	8·3	5	9·2	—	36·5	4·9	—	35·3
Rezende	6·1	1,027	1·4	11	71·6	12,610	18·5	77·5	14,560	32·8
Tebekwe	8·4	—	2·9	5	41·0	—	13·2	39·5	—	15·8

* Last year's cumulative total to date given for Oct. - Dec. quarter

ANGLO-TRANSVAAL CONSOLIDATED INVESTMENT

ANGLOVAAL GROUP INTERESTS—PROGRESSIVE IMPROVEMENT

The twentieth Annual General Meeting of the Anglo Transvaal Consolidated Investment Company, Limited, was held in Johannesburg on December 18, 1953. During the course of his address, **Mr. S. G. Menell** (Chairman of the Company) said: The accounts before you have been drawn in accordance with the provisions of the Companies Amendment Act 1952. The profit for the year was £592,700, out of which the dividends on the 6 per cent and 5 per cent cumulative preference shares were paid and a 50 per cent dividend on the ordinary and "A" ordinary shares maintained with a corresponding pro rata distribution on the participating preference shares plus their fixed rate of 5 per cent. The amount carried forward on appropriation account was increased to £401,600.

GOLD

Rand Leases (Vogelstruisfontein) Gold Mining Co. Ltd.—The average tonnage milled dropped to 170,125 tons per month for the year under review, with a working profit of 4s. 11d. per ton.

Virginia Orange Free State Gold Mining Co. Ltd.—Erection of the reduction plant is well advanced and it is anticipated that production on an initial scale of 50,000 tons per month will be commenced in the early part of next year. In addition to its acceptance as a producer of uranium, arrangements have been concluded for this company to erect a plant to produce sulphuric acid for the supply of its own acid requirements and those of certain other mining companies engaged in the extraction of uranium. Work on the erection of the sulphuric acid and uranium plants has been commenced.

Merriespruit (Orange Free State) Gold Mining Co. Ltd.—Of 1,535 ft. sampled on Basal Reef from No. 1 Shaft, 965 ft., equal to 62.9 per cent, were classed as payable, having an average value of 6.22 dwt. over a channel width of 48.4 in., equivalent to 301 in. dwt.

Hartebeestfontein Gold Mining Co. Ltd.—Cylindrical concrete headgears have been erected, and the two circular shafts are being concrete lined and fully equipped concurrently with sinking operations.

BASE METAL

The Associated Manganese Mines of South Africa Limited.—The reduction in the tonnage of ore shipped was due to the continued shortage of transport facilities to the coast. The demand for the Company's manganese ore has, however, been maintained and large orders are on hand for future delivery.

Consolidated Murchison (Transvaal) Goldfields and Development Co. Ltd.—In the first six months ended June 30, 1953, of the current financial year the estimated profit from antimony and gold amounted to £258,800, before providing for taxation. In the succeeding quarter ended September 30, 1953, there was no demand for antimony and, as a result, a working loss estimated at £46,800 was incurred on the quarter's operations. Recently there has been a slight revival in the demand for antimony, and some shipments will be made during the current quarter.

COAL

Anglo-Transvaal Collieries Ltd.—Total sales output, marketed for the year ended June 30, 1953, by this group of collieries, amounted to 1,036,539 tons. Dividends paid during the year totalled 8 per cent on the ordinary shares as against 4 per cent the previous year.

ORANGE FREE STATE
VIRGINIA LAND AND ESTATE CO. LTD.

We formed this company to undertake the development of the new town of Virginia in the Orange Free State goldfield, designed to serve the needs of the mines of the Sand River section. Virginia is expected to have, ultimately, a population of some 40,000 Europeans and 80,000 non-Europeans.

GOLD PRODUCTION IN O.F.S.

Up till now, five of the thirteen mines which have been granted mining leases in the Orange Free State have commenced production of gold on preliminary scales, and these mines have published monthly results of their operations, although the nature of the mining operations upon which the grade of ore milled depends, is still far from normal.

The present practice in the Free State has introduced a new stage in the history of the mines—an intermediate stage which can be described as "the predominantly developing stage with some auxiliary production" and this stage merges by degrees into the normal production stage as more and more stope faces come in. Because the height of development ends on reef is, on average, about twice the subsequent stoping width, and because the pay limit of development is about one-third the pay limit of stoping rock, the grade, when the ore milled is composed predominantly of development rock, is much below the grade ultimately achievable under conditions of normal production, with development proceeding at the rate necessary to replace depletion of ore reserves. The Report was adopted.

RAND SELECTION CORPORATION LTD.

(Incorporated in the Union of South Africa)

CONSOLIDATION OF FINANCIAL POSITION
MR. K. C. ACUTT'S REVIEW OF WIDESPREAD INTERESTS

The annual general meeting of Rand Selection Corporation Limited was held on Wednesday, December 30, in Johannesburg.

The following is an extract from the statement by the chairman, **Mr. K. C. Acutt,** dated December 9, 1953, which has been circulated to the Corporation's shareholders:

The share capital of your Corporation was increased in November, 1952, by the issue of 400,000 reserve shares at the price of 40s. per share. The proceeds of this issue, together with the £1,600,000 raised by the creation of 5½ per cent. Unsecured Registered 1963-72 Notes, formed part of a scheme to consolidate the Corporation's financial position and to enable it to follow up its investments and take advantage of its right to participate in any new business undertaken by the Anglo American Corporation of South Africa, Ltd.

It will be remembered that at the time the options were issued it was estimated that the Corporation would require £600,000 in January, 1954, which was expected to be raised by the exercise of these options. In order to ensure that the Corporation will receive this amount, your Board has arranged for the Anglo American Corporation of South Africa, Ltd., to subscribe at 30s. per share for such of the shares now under option as are not subscribed by option holders. A cash commission of 2½ per cent. on the issue price of the shares will be paid to the Anglo American Corporation of South Africa, Ltd.

PROFIT AND DIVIDEND

Revenue for the year at £933,337 was £67,060 higher than the previous year. The increase is mainly attributable to larger amounts received in the form of interest on loans and debentures and dividends on shareholdings.

The dividend declared by the Corporation's subsidiary, South African Townships, Mining and Finance Corporation, Ltd., for the year ended September 30, 1952, has been brought into the Corporation's accounts for this year. This dividend cannot be included in the consolidated profit and loss accounts of the Corporation and its subsidiaries, and the profit reflected in those accounts is, therefore, less than the figure in the Corporation's accounts. To avoid this in future, it has been decided to include in the revenue of the Corporation for the year ended September 30, 1953, the dividend of 3d. per share declared by South African Townships, Mining and Finance Corporation, Ltd., in November, 1953, in respect of the year ended September 30, 1953.

Provision for taxation amounted to £38,000, and after providing for the dividend of 2s. per share declared in November, 1953, and for directors' special remuneration, the unappropriated profit stood at £498,594 as compared with £440,110 the previous year. General reesrve now stands at £6,250,000.

Your Corporation's holding of debentures, Notes and Loan stock has increased from £380,118 in 1952 to £685,334, and loans to associated companies now stand at £1,177,465 as compared with £516,555. Many of these notes and loans carry a right to convert into shares.

Shares and interests in concerns other than our subsidiary company stood at £4,683,014, an increase of £315,772 over the 1952 figure. The market value of these shares and investments at September 30, 1953, was £8,786,697. Since that date there has been some improvement in the market prices of most of the Corporation's shareholdings. The Corporation's holding of shares in South African Townships, Mining and Finance Corporation, Ltd., is shown in the balance-sheet at £3,977,789.

GOLD MINING INDUSTRY

Lower outputs and profits resulting from a shortage of labour and higher costs were again the features of the reports of producing mines on the Witwatersrand. Increases in the wages of underground native employees were introduced in May, 1953. It is too early to say to what extent this step has assisted, but there has recently been some improvement in the native labour position.

Your company's interest in mines on the Far West Witwatersrand and the Klerksdorp area is maintained through its shareholding in West Rand Investment Trust, Ltd. Your Corporation also holds a direct interest in Hartebeestfontein Gold Mining Company, Ltd. This company will mine the northern portion of the Lucas Block. Shaft sinking on the property and other work has made satisfactory progress. Work has also been started by the Buffelsfontein Gold Mining Company, Ltd., which will exploit the southern area of the Lucas Block. The borehole intersections of the Vaal Reef on these properties indicate very promising futures for these mines.

All the mines in the Orange Free State have now reached the underground development stage, and by the end of 1954 nine mines will probably be in production.

The results of underground development in the mines in which we are principally interested, up to the end of September, 1953, show both the high average grade and payability of reef exposed.

URANIUM

Apart from a direct shareholding in Daggafontein Mines, Ltd., we are indirectly interested, through our shareholdings in West Rand Investment Trust, Ltd., and Orange Free State Investment Trust, Ltd., in other producers or potential producers of uranium on the West Wits Line, in the Klerksdorp area and in the Orange Free State.

Although it is not yet possible to assess with any accuracy the profits which will accrue from the production of uranium, it is clear that the Corporation will derive substantial income from this source.

RHODESIAN INTERESTS

The price of copper, although lower than the peak of £285 per long ton reached in December, 1952, has remained at a very satisfactory level since the return to free trading conditions, and the future of the Northern Rhodesian copper industry, in which your Corporation is interested through Rhodesian Anglo American, Ltd., is regarded with confidence. Your Corporation has acquired a shareholding in Bancroft Mines, Ltd. This company is now scheduled to come into production early in 1957.

DIAMOND INDUSTRY

The Corporation's shareholding in Anglo American Investment Trust, Ltd., has continued to be a most satisfactory investment. Anglo American Investment Trust, Ltd., earned a record profit of £3,726,836 during the year ended December 31, 1952. For the nine months ended September 30, 1953, gem and industrial diamond sales by the Central Selling Organization totalled £45,587,274, as against £53,701,619 for the corresponding period of 1952.

The total sales for 1953, however, are not expected to be substantially lower than the record figure for 1952.

Premier
PLANT AND HIRE CO., LTD
48, BURLINGTON ROAD, ISLEWORTH, MIDDLESEX

TRACTORS & EXCAVATORS

Ransome & Rapier Model 462 Excavator, 1947 machine. Recently overhauled. Fitted with 60ft. lattice jib and 1 cube yard drag line bucket. Driven by 5 cylinder McLaren diesel engine with petrol engine starter.

H.D.14 Allis Chalmers Tractor with Garwood double drum power control unit. In good order as lying.

MOBILE CRANES

NEAL "N" 20ft. jib, pneumatic tyres, fully reconditioned. Lifts 2 tons at 8ft. 9in. radius, 1 ton at 14ft.

NEAL "NM" 25ft jib, pneumatic tyres, fully reconditioned. Lifts 2 tons at 14ft. radius, 1 ton at 22ft.

JONES "Super 40" 25ft. jib, solid tyres, reconditioned throughout. Lifts 3 tons at 9ft., 2 tons at 12ft.

MOUNT ISA MINES

MR. G. R. FISHER'S REVIEW

The twenty-first annual general meeting of Mount Isa Mines, Ltd., was held on December 7 at Howard Smith Chambers, 363 Adelaide Street, Brisbane, Australia.

Mr. G. R. Fisher, chairman of the company, presided.

The Chairman, in the course of his speech, said:—The net profit for the year was £1,668,663, compared with £2,179,758 for the previous year, and was struck after providing £114,194 for interest on debentures, £800,000 for depreciation on buildings, plant and machinery, £1,224,466 lead bonus paid to employees as awarded by the Industrial Court of Queensland and £300,000 provision for income-tax. The main cause of the reduction in profit was the fall in the prices of zinc and lead.

From the profits of the year the directors have recommended the payment of a final dividend of 10 per cent. The total dividend disbursements for the year amount to 15 per cent. and £863,597.

PRODUCTION AND OPERATIONS

Production from the mine greatly exceeded any previous annual production and was considerably augmented by the production of copper ore in addition to the high rate of production of silver-lead-zinc ore. Ore production for the year was 644,426 tons of silver-lead-zinc ore and 206,526 tons of copper ore, making a total of 850,952 tons. The present rate of production is exceeding one million tons per year. The grade of silver-lead-zinc ore milled was 7.4 per cent. lead, 6.4 per cent. zinc and 5.8 oz. silver, compared with 7.4 per cent. lead, 7.0 per cent. zinc and 6.05 oz. silver for the previous year. The grade of copper ore milled was 3.56 per cent. copper.

Lead production at 38,536 tons exceeded last year's production by 217 tons. Silver production 3,195,374 oz. compared with 3,296,147 oz. for the previous year. Zinc concentrate production at 41,828 tons was 5,053 tons lower than the previous year.

Copper milling commenced on December 15, 1952, and the first blister copper was produced on February 6, 1953. Blister copper production for the financial year was 5,477 tons. The present rate of production has exceeded the rated production of 1,500 tons per month.

OPERATING COSTS AND ORE RESERVES

The basic wage was increased by 11s. per week during the year to £11 18s. 5d. and there were very substantial increases in freights and supplies. However, the cost per ton of ore f.o.b. Townsville, exclusive of the lead bonus, was reduced from 91.2s. to 90.6s. because of the greater overall tonnage mined and treated due to the commencement of copper production.

The general manager reports that new silver-lead-zinc ore revealed by exploration and development during the year exceeded the tonnage extracted by 27,550 tons, making a total estimated reserve of 9,879,800 tons.

Additional copper ore revealed by exploration and development during the year exceeded the tonnage extracted by 145,900 tons, making the total estimated reserve of copper ore 3,911,250 tons.

The vigorous programme of exploration and development in the vicinity of the mine referred to in the chairman's speech last year has been continued. Diamond drilling and development in the mine itself have disclosed extensions of known orebodies beyond present ore reserves of a grade similar to that being concurrently extracted, and indicate also the existence of considerable tonnages of sub-marginal grade ore.

METAL PRICES

Following on the decision of the Government in the U.K. to cease bulk buying of lead and zinc, and the opening of the London Metal Exchange for trade in these metals on October 1 and January 2, respectively, there was a disastrous fall in the price received for these metals by this company. Since the opening of the London Metal Exchange the prices of these two metals have remained at a level which has caused great concern to metal producers.

On August 5 trading in copper was commenced on the London Metal Exchange. The fall in price below that being paid by the U.K. Ministry of Supply was not so great in the case of copper as lead and zinc. This is attributed to the fact that the U.K. Government stocks were not placed on the market in such a free manner as occurred with lead and zinc. It is difficult to forecast the future of the price of the three metals with which this company is principally concerned.

The report and accounts for the year ended June 30, 1953, were adopted.

MALAYAN TIN DREDGING, LTD., AND SOUTHERN MALAYAN TIN DREDGING LTD.

The annual general meetings of Malayan Tin Dredging, Ltd., and Southern Malayan Tin Dredging, Ltd., were held on December 30, 1953, in London.

Mr. Ernest V. Pearce (Chairman) presided.

The following are extracts from the Statements of the Chairman circulated to shareholders:—

MALAYAN TIN DREDGING, LTD.

ACCOUNTS

The net profit for the year after providing for taxation, £400,299, amounts to £255,923, making, with the balance unappropriated at June 30, 1952, a total credit of £483,281. Dividends totalling 6s. per share have been paid, absorbing £193,500 and the sum of £60,000 has been transferred to Reserve Account. There remains a balance of £220,885 which is carried forward to the current year.

The sum of £188,366 3s. 1d. was paid during the year to the Federation Government in Export Duty.

WAR DAMAGE

It has recently been announced that total payments of War Damage Compensation will amount to 90.4 per cent. of Net Awards.

The total cost of rehabilitating our property, plant, buildings, etc., has been £246,634. Our claim for War Damage, which included £163,000 in respect of tin concentrates extracted by the Japanese as well as compensation for items not being immediately restored, was approximately £515,000. Advances obtained from Government totalled £233,850.

The Company's gross effective War Damage Award was £248,240; an award was also made in respect of tin concentrates in a category which does not rank for payments. After abatements common to all awards, the Net Award was £193,374. A provisional credit of 95 per cent. of this amount, £183,706, was given against the advances from Government and the balance, £50,144, was repaid in cash.

The total payment of 90.4 per cent. of Net Awards now announced amounts to £174,810. This is £8,896 less than the amount provisionally credited against advances from Government, and this balance, together with adjustment of interest, is repayable to Government.

TERRORISM

From all the information available it is clear that as a result of the measures adopted by H.E. the High Commissioner, Sir Gerald Templer, terrorism is on the decline. The situation, however, admits of no relaxation of precautions, for grave incidents still occur from time to time and our employees must be constantly on the alert.

PROSPECTING

As one result of improved conditions a limited amount of prospecting is being undertaken in certain areas under the protection of armed guards.

For over 20 years prospecting in Malaya has been practically at a standstill and during that time well over 1,000,000 tons of metallic tin have been extracted from the known reserves. This, of course, must mean that the reserves of some mines are nearing exhaustion. Unless, therefore, new payable areas can be found it is patent that in the long run Malaya's production will decline.

It is generally accepted by those best qualified to know, that the future of the Malayan tin industry will depend on the successful working of low-grade and perhaps deep areas. This is a matter of prime importance, not only to the mining companies but to the economy of Malaya as a whole and it is up to the Government to avoid entering into any arrangement which would again have the effect of preventing prospecting and new production. If Malaya is to maintain even its present relative position as a producer it is essential that the Government should take, as speedily as possible, all steps in their power to encourage not only the prospecting, but also the development of new areas.

There seems to be a considerable measure of inconsistency on the part of the Government for while stressing the necessity for prospecting they are, at the same time, recommending the adoption of a Control Scheme which would during the period of its operation seriously retard the development of any new properties.

TIN PRICE

During the year covered by the Accounts the price of tin in Singapore, based on monthly averages, was $449.42 per picul, equivalent to £887 5s. per ton, compared with $464.03 per picul, equivalent to £919 15s. 4d. per ton, in the previous year.

In March of this year, in anticipation of a satisfactory conclusion to Korean peace negotiations, the price fell drastically as will be seen from the following figures:—

Average price in March—$472.86 per picul, equivalent to £934 0s. 8d. per ton.

Average price during three months April, May and June—$367.64 per picul, equivalent to £724 16s. 11d. per ton.

Since the end of June there has been a further fall, the average for the five months July 1 to November 30 of this year being $306.36 per picul, equivalent to £603 10s. per ton.

As a guide, it may be taken that the net realizable value of concentrates containing 76 per cent. tin is approximately 62 per cent. of the tin metal price.

With this knowledge, coupled with the information regarding each quarter's production, it is not difficult to calculate, within reasonable limits, the effect which any fall in the tin price has on our gross earnings.

I have mentioned this in order that shareholders may be warned that, with tin at its present price, they cannot expect dividends at the same rate as were paid during the year under review.

THE OUTLOOK

While I am making no prophecy regarding the future tin price, I am convinced that if Malayan production is to be maintained, a materially higher price than that obtaining to-day is essential.

LABOUR

It is satsifactory to learn from the General Manager's Report that no labour troubles have been experienced during the year and that a better type is now available. This improvement is no doubt due in large measure to our employees being both well looked after and adequately remunerated.

SOUTHERN MALAYAN TIN DREDGING, LTD.

ACCOUNTS

The net profit for the year, after providing for Taxation, £663,664, amounts to £524,538, making, with the balance unappropriated at 30th June, 1952, a total credit of £668,644. Dividends totalling 6s. 0d. per share have been paid, absorbing £278,963 and the sum of £200,000 has been transferred to General Reserve. There remains a balance of £174,523 to be carried forward to the current year.

The sum of £304,937 2s. 2d. was paid during the year to the Federation Government in Export Duty.

WAR DAMAGE

It has recently been announced that total payments of War Damage Compensation will amount to 90.4 per cent. of Net Awards.

The total cost of rehabilitating our property, plant, buildings, etc. has been £450,130. Our claim for War Damage, which included £734,000 in respect of tin concentrates extracted by the Japanese as well as compensation for items not being immediately restored, was approximately £1,366,000. Advances obtained from Government totalled £350,000.

The Company's gross effective War Damage Award was £561,051; an award was also made in respect of tin concentrates in a category which does not rank for payments. After abatements common to all awards, the Net Award was £431,705. A provisional credit of 95 per cent. of this amount, £410,120, was brought into the Accounts for the year ended June 30, 1952.

The total payment of 90.4 per cent. of Net Awards now announced amounts to £390,261. This is £19,858 less than the amount provisionally credited against advances from Government and this balance has been written off.

RESEARCH

The work of the Tin Research Institute in its efforts to improve existing uses and to develop new uses for Tin is expanding rapidly thanks to the support it is receiving from producers. Very great interest is being shown by consumers of Tin in all parts of the world and many of the methods devised by the Institute are being incorporated in everyday manufacturing processes.

SUNGEI BESI MINES, LTD. AND AYER HITAM TIN DREDGING, LTD.

The annual general meetings of Sungei Besi Mines, Ltd., and Ayer Hitam Tin Dredging, Ltd., were held on December 30, 1953, in London.

Mr. G. W. Simms (the Chairman) presided.

The following are extracts from the Statements of the Chairman circulated to shareholders:—

SUNGEI BESI MINES, LTD.

WAR DAMAGE

This Company has suffered severe injustice in respect of its War Damage Compensation. We have been awarded totally inadequate compensation in respect of the unpayable ground which it is necessary to remove appropriate to the tin bearing karang extracted by the Japanese.

Having regard to the very heavy loss we have suffered through the big quantity of tin extracted by the Japanese, for which we received no compensation, it is indeed unfortunate that we should have received so much less than fair compensation for the unpayable ground we have to remove.

AYER HITAM TIN DREDGING, LTD.

With the object of securing information which might be of assistance in dredging to greater depth an attempt was made to lower the paddock water level after bunding off a part of the swamp surrounding the dredge. Although the trial was brought to an end through a portion of the bund collapsing when the water level was reduced by 12 ft. we nevertheless gained useful information from the test.

Based on the capacity of the present dredge the remaining life of the high grade ground ahead of the dredge is approximately 17 years. But there are parts of it which are below the average grade, and production in the future will vary as in the past.

TIN CONTROL

If those who have continuously advocated the introduction of another Tin Control Agreement embodying restriction of production would profit from the experience of the last Scheme and leave the industry alone, Producers, Consumers and Governments would all benefit.

Consumption, price and production of tin are governed by world industrial production activity.

As regards the Malayan Tin Industry it is claimed that a Tin Control Scheme is essential, (1) to prevent unemployment, (2) to prevent serious damage to the economy of Malaya, and (3) to create stable conditions within the industry.

Probably from the standpoint of the Malayan Government the most important are unemployment and damage to the economy of Malaya.

PRICE STABILITY

As regards price stability under tht pre-war Tin Control Scheme the range of price fluctuations was wider after the "stabilization" attempt than it was before except for the abnormal post-war years 1918 and 1920.

The effect on workers employed in the Malayan Tin industry and on tin production there, can be seen from the quotations from the annual reports of the Chief Inspector of Mines F.M.S. for the years 1938 and 1939:—

"Many mines were closed down as the result of low quota releases, and, although miners retained their men as far as possible, some 30,000 coolies were discharged from mines during the year.

"The total labour force employed in mining at the end of 1939 . . . was 72,954 compared with 57,663 at the end of the previous year. The increase was due to the larger quota releases during the second half of the year."

The average domestic quota in Malaya for the years 1931-1939 inclusive, which were the pre-war years during which the Control Scheme operated, was 48.3 per cent. Obviously the tin industry there would have been much better off with a lower average price and full production. for few things more adversely affect costs than compulsory fluctuation of production, but the average price during the years 1931-1939 inclusive, was £196.4, as compared with an average price of £225 for the nine years immediately prior to the control scheme. The average price for the 20 years prior to the scheme was £220.6.

During the whole period of the existence of the Control Scheme prospecting was either prohibited or strictly limited, and development within the industry was brought practically to a standstill.

It is safe to say that few, if any, mining companies would now willingly undertake the necessary capital expenditure of about £750,000 to develop a big bucket dredging area in Malaya if they thought its production would be restricted to 48.3 per cent. of its capacity under another International Control Scheme.

If now Malaya again participates in any form of Control Scheme involving restriction of production, it must further accentuate the seriousness of the position as regards prospecting and future development of the industry. It is a difficulty which cannot be overcome if sale and transfer of Quota in Malaya be permitted, for the object of this is to enable the producer who sells quota to close down, dismiss the labour force, but still retain the assessment drawing income for "not producing tin." It was, and still is, a direct incentive to unemployment.

One can only assume that the Malayan Government, in pressing for an International Control Scheme, is guided by the wish of the majority of Malayan producers as expressed by a recent vote taken on the question. However, I believe it true to say that the great majority of producers who voted, did so on the assumption that sale and transfer of Quota in Malaya would be permitted as under the pre-war Control Scheme.

The Government has merely to apply the simple test of informing producers that sale and transfer of domestic Quota will not be permitted and then take a vote on the Scheme.

I believe that real health within the industry lies along the path of freedom from restriction of production and end use consumption, and in expanding the work which the Tin Research Institute is doing in improving existing uses and developing new uses for tin.

BURMA MINES LIMITED

The following summarises a report of the operating results of Burma Corporation (1951) Limited (Incorporated in the Union of Burma), for the three months ended September 30, 1953.

ORE EXTRACTION

Quarter ended September 30, 1953 ... 17,800 tons

PRODUCTION

Marketable Products were as follows:—

Refined Lead	2,188 tons
Refined Silver	124,914 oz.
Copper Matte	59 tons
Zinc Concentrates (57%-58% Zn) ...	2,799 tons

ESTIMATED REVENUE AND EXPENDITURE

Estimated Gross Revenue ...	K.44,05,867	£330,440
Estimated Operating Expenditure	K.37,44,729	£280,855
Estimated Excess of Revenue over Expenditure	K.6,61,138	£49,585
Estimated Taxation	Nil	Nil
Estimated Depreciation on Machinery and Plant	K.1,09,447	£8,208
Capital Expenditure	K.1,24,482	£9,336

The Sterling figures shown are based on a Rate of Exchange of 1s. 6d. per Kyat.

GENERAL

Mine ore extraction at 17,800 tons increased by 45.68 per cent over the previous quarter and the results achieved in all departments for the quarter were satisfactory.

Note.—The published reports for the four quarters of the year ended June 30, 1953, disclosed an estimated excess of Expenditure over Revenue of K.22,19,100 or £166,432.

37 Dover Street, London, W.1.

ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED GROUP

DIVIDENDS ON STOCK AND SHARES TO BEARER

With reference to the notices of declaration of dividends published in the Press on December 10, 1953, the following information is published for the guidance of holders of stock and share warrants to bearer.

The undermentioned dividends will be paid in British currency at par on or after February 9, 1954, against surrender of the appropriate coupons at Barclays Bank (Dominion, Colonial & Overseas), Circus Place, London Wall, London, E.C.2, or at the equivalent in French currency at Banque de l'Union Parisienne, 6 and 8 Boulevard Haussmann, Paris, 9e. Listing Forms may be obtained on application at the offices of either of these paying agents.

Coupons presented for payment at Barclays Bank (Dominion, Colonial & Overseas) will, unless accompanied by Inland Revenue declarations, be paid at the amounts shown in Column No. 12, which are arrived at after deduction of United Kingdom Income Tax (Column 11) at rates reduced to allow for relief in respect of Dominion Taxes. Coupons must be left four clear days for examination and may be presented any day (Saturday excepted) between the hours of 11 a.m. and 2 p.m.

NAME OF COMPANY (Each incorporated in the Union of South Africa) (1)	Class of Capital (2)	Dividend No. (3)	Coupon No. (4)	Amount of dividend declared per £1 Stock or per Share (5)	South African non-resident Shareholders' tax deducted per £1 Stock or per Share (6)	Amount of dividend after deduction of S.A. non-resident Shareholders' tax per £1 Stock or per Share (7)	Rate of relief authorised in the £ (8)	GROSS Amount of dividend for United Kingdom tax purposes (9)	Rate of deduction of United Kingdom Income Tax in the £ (10)	Amount of United Kingdom Income Tax deducted per £1 Stock or per Share (11)	NET Amount of dividend per £1 Stock or per Share (12)
				s. d.	Pence	s. d.	s. d.	s. d.	s. d.	Pence	s. d.
Anglo American Corporation of South Africa, Limited	6% Cum. Pfd. Stock	49	49	0 7.2	0.4482	0 6.7518	1 2.94	0 7.2	7 9.06	2.7918	0 3.96
Brakpan Mines Limited	Shares	82	82	0 8	0.45	0 5.55	4 6	0 7.16	4 6	1.61	0 3.94
Daggafontein Mines Limited	Shares	42	42	3 0	2.7	2 9.3	4 6	3 6.97	4 6	9.67	1 11.63
The South African Land and Exploration Company, Limited	Shares	31	31	1 6	1.35	1 4.65	4 6	1 9.48	4 6	4.83	0 11.82
Springs Mines, Limited	Shares	64	64	0 1.5	0.1125	0 1.3875	1 7	0 1.5068	7 5	0.5588	0 0.8287

For and on behalf of ANGLO AMERICAN CORPORATION OF SOUTH AFRICA, LIMITED

11 Old Jewry, London, E.C.2.
22 December, 1953.

W. E. GROVES, London Secretary.

The following notes are added at the request of The Commissioners of Inland Revenue :

(i) As regards the dividends payable by Brakpan Mines Limited, Daggafontein Mines Limited, The South African Land and Exploration Company, Limited, and Springs Mines Limited.—Under the provisions of Section 348 and the 17th Schedule of the Income Tax Act, 1952, as amended by Section 26 of the Finance Act, 1953, relating to " unilateral relief " from double taxation, South African tax applicable to the dividend is allowable as a credit against the United Kingdom tax payable in respect of the dividend. The deduction of tax at the reduced rate shown in Column (10) instead of at the standard rate of 9s. 0d. in the £ represents a *provisional* allowance of credit at the rate shown in Column (8). The final rate of credit allowable to a particular shareholder depends on his personal rate of tax and may be more or less than that shown in Column (8). Revision of the credit involves a corresponding adjustment of the amount shown in Column (9) as the GROSS amount of the dividend for United Kingdom tax purposes.

(ii) As regards the dividend payable by Anglo American Corporation of South Africa, Limited.—Under the provisions of Section 348 and the 17th Schedule of the Income Tax Act, 1952, as amended by Section 26 of the Finance Act, 1953, relating to " unilateral relief " from double taxation, South African tax applicable to the dividend is allowable as a credit against the United Kingdom tax payable in respect of the dividend. The deduction of tax at the reduced rate of 7s. 9.06d. in the £ instead of at the standard rate of 9s. 0d. in the £ represents a *provisional* allowance of credit at the rate of 1s. 2.94d. in the £ in respect of South African Non-Resident Shareholders' Tax. The final rate of credit allowable to a particular shareholder depends on his personal rate of tax and may be less than 1s. 2.94d. in the £. Revision of the credit involves a corresponding adjustment of the amount shown in Column (9) as the GROSS amount of the dividend for United Kingdom tax purposes.

Mining Men and Matters

Mr. George Hemmant has been appointed a director of The Pahang Consolidated Company.

Mr. Vaughan Pendred, sales director of Head Wrightson and Co. Ltd., of Thornaby-on-Tees, is leaving early in January for an extended tour of India with **Mr. M. H. Jenks** from the Calcutta office of Balmer Lawrie and Co., whom Head Wrightson have just appointed as their selling agents in India.

Mr. George Wood, chairman of Thos. W. Ward Ltd., Sheffield, since 1950, has decided to retire from that position at the end of the year. Mr. Harold W. Secker, present joint managing director will become chairman, and **Mr. Arnold Carr** has been appointed assistant managing director.

Roan and Mufulira May Raise Loan Interest.—Under this heading in last week's issue it was stated that Roan and Mufulira Copper Mines were to convene extraordinary meetings on January 5 next to submit resolutions to shareholders to increase the rate of interest payable on the company's outstanding loan stock from 4½ per cent to 5 per cent. The extraordinary meetings are being convened for the loan stockholders and not the shareholders as previously stated.

B.N.C. Has Successful First Season.—During the 1953 season some 47,000 square miles of Labrador and 1,000 square miles in Newfoundland, have been geologically reconnoitred by the British Newfoundland Corporation Ltd. The survey has provided showings of iron, copper, and a first discovery of beryllium ore in the Nutak area on the coast about 290 miles north of Goose Bay. The main showings included anorthosite masses generally in the south and south-east portions of the Corporation's Labrador concessions. Some of these carried ilmenite, with mixtures of haematite and magnetite. Sulphur has been noted, and two ilmenite deposits warrant investigation. Two northern areas offer copper.

High grade Ta205/Cb205/Sn02 Mines. Estimated monthly production 25 tons complex, 25 tons Sn02. Concessionaire would like to hear from firm interested in supplying machinery and technical supervision for developing. No capital beyond cost machinery required. Reply to Box 542.

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